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HINTS ON THE DIAGNOSIS AND TREATMENT OF CLUB-FOOT.

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THE theory has been advanced by an English surgeon that talipes is always due to paralysis of certain muscles or sets of muscles. This theory, adduced dogmatically and without proof, has never been directly impugned or controverted. It has been adopted to some extent in this country by those of little experience, or who have neglected, in making their diagnosis, simple and obvious methods by which certainty on this point can be reached. Upon this hypothesis Mr. Barwell has founded a treatment, tedious as respects the time required, complicated in its application, and unsatisfactory in its results. This system, as is well known, consists of the application of various adhesive straps with elastic attachments, which are placed as nearly as possible over the origin and insertion, and are to follow the course of the supposed paralyzed muscles. In this way an endeavor is made to supply the place of the muscles referred to by the introduction of an artificial elastic force. The impossibility of successfully imitating nature, the disadvantage under which the power is used, the waste of force, the crowding together of bones in unnatural relation to each other, the alternative of the plaster slipping and losing any efficient hold on the parts to which it is attached, are objections to this mode of treatment which are sufficiently obvious.

Other methods have been devised, founded upon the same basis, which are but varied forms of that above described. In addition to these drawbacks we have the length of time which is confessedly required in cases of congenital varus, even in the hands of the contriver of the method; and the imperfection of the result as shown in the cases which he has cited. That this treatment is complicated is evident; that it is tedious and unsatisfactory as compared to other measures, which he disapproves and would supplant, no other evidence is needed than the author's record.

A glance at the only cases of varus, an account of which he has given in his work on this subject, four in number, will be sufficient.

In the first case, — whether congenital or non-congenital is not stated,

—the plasters were applied in July, 1864. In June, 1865, eleven months afterwards, the foot, as seen in the photograph, is still inverted, with a rising at the medio-tarsal joint and of the internal border of the foot and a crowding downward of the toes, while the heel lightly touches the ground, giving evidence that the contraction of the tendo-Achillis has not been overcome. Thus much is plainly visible to an eye accustomed to these photographic representations.

The length of treatment in the second case is not stated. The photograph taken after one month's treatment shows the condition of the foot but little changed from that represented in the first picture of the same foot.

The third case is one of infantile paralysis, existing three years, patient five years of age. Treatment by plasters commenced March 14, 1864, and ended June 5, 1864, nearly three months; but the case was still kept under observation as late as March, 1865. The ætiology of this case removes it from the class we are considering. Such feet are generally put into position with comparative ease, and whether they remain so depends upon the recovery or not of muscular power. In a certain number of such cases the muscles do regain their strength, and it often suffices simply to return the member to a normal shape, thus relieving the extension of the affected parts to effect a cure.

The fourth case had been previously operated upon. Treatment by plaster commenced April 13, 1864, and in July, the date of the last record, the case was not cured.

Contrast such results as these with the success attained by combined operative and mechanical surgery in the hands of those who have used and not abused these methods.

Surgeons who have from time to time published their experience in such cases, and with it photographic or other representations, and whose patients have been seen by considerable bodies of men, members of the profession, are tempted to consider this question (the best method of treating talipes) as settled by these results, and do not deem it requisite to produce new cases to reinforce principles which have been abundantly proved. Where perfection or a near approach to it has been continually reached in the treatment of talipes, where after treatment the feet are normal in shape, motion, and usefulness, it would seem unnecessary to reiterate principles thus enforced, and which the most extensive experience has approved. The average length of time required to obtain these results by the method indicated, in skilled hands, is three months. In some instances sixty days is sufficient; in others the period of treatment may need to be extended beyond the time I have mentioned. After the cure is completed steel supports, in a majority of cases, are not required, and should not be permitted.

The theory referred to nevertheless has, as we have said, gained some foot-hold, apparently because it has never been shown to be erroneous,

and systems of treatment have been founded thereon which are an injustice alike to the patient and to the physician. The primary principle upon which the processes referred to are based can be proved correct or otherwise by the use of very simple expedients when making our diagnosis. This principle, as already stated, is that the loss of balance in muscular action is caused by paralysis or debility of a certain set of muscles. In varus it is declared that the abductors are in fault, that these are congenitally paralyzed. The cases of congenital varus in which this loss of power is present are very infrequent. They are in truth exceptional instances. This statement can be easily demonstrated by a careful examination. Children born with varus are often, perhaps generally, strong, robust, and healthy.

A child is brought for examination. We find the usual appearances of this deformity, perhaps in the third degree. The tendo-Achillis is strongly acting upon the os calcis, as in typical cases; the plantar fascia and probably the flexors of the toes are tense. The tibialis anticus operates upon the bone in which it is inserted, assisting the abnormal action of the last named, and also lifting the inner side of the foot. The extensor longus and the adductor pollicis may likewise offer resistance. If the patient is fat, it is difficult and perhaps almost impossible to feel a decided tenseness of the tibialis posticus. We however judge from a peculiar rising of the internal edge of the foot near the calcis, causing a slight crease or wrinkle, that the last-named muscle is in fault. In truth, this peculiar appearance can be accounted for in no other way but by the agency of this muscle; it is not present in all cases, by any means, but when present it is a sure indication. We then feel carefully near the lower end of the tibia and behind the malleolus, and if we have *tactile sensitiveness* well developed we shall find that on rotating the foot with the heel in the contrary direction to the distortion there will be a feeble, scarcely perceptible rising of the adipose tissue and skin against the finger, which can only be caused by a tightening of the deep-seated cord. This may not be sufficient to demand division, but in making our decision we must take into consideration the depth of this tendon beneath the surface. Otherwise we may be deceived, and find afterwards that our diagnosis in this particular was erroneous. It is evident that certain ligaments and abducting muscles are longer than they should be. Is there paralysis of these muscles which has destroyed the balance of power, or is the distortion due to some other cause?

If the child is of an age to understand, we tell him to turn out his foot. He probably will not at first fully comprehend what he is desired to do. If only one foot is affected, we begin with the well foot, and teach him what we would have him do. We adduct the foot, and, placing a finger two or three inches from the outer margin, tell him to turn it towards the finger, at the same time performing this motion for him.

We then place a finger at about the same distance from the inner margin, giving the same direction, and likewise adducting the foot. In like manner, the finger is held above the dorsum and below the sole. This done two or three times, the little patient will understand what is wished, and on being told to turn the foot in or out, up or down, will readily perform these motions. Beginning now with the other foot, it is manœuvred so far as possible in the same way, restricted within the narrow limits permitted by the deformity. It may be that the distortion is so extreme as to render the slightest movement impossible. But the exertion is all that is required. On being told to turn his foot towards the finger, generally, even in the worst cases, if the effort is made, a slight inward motion is perceived. If told to turn it out towards the same object, the attempt to comply with the request is answered by a play and tension of the abductor tendons. The fingers placed just above, behind, and below the external malleolus find the peroneus longus tense and vibrating, and uniting with its mates to perform the required action. The effort is for the most part null, but the evidence of non-paralysis of the abductor muscles is all sufficient. The same, with perhaps somewhat more extended motion, is the result of the effort at flexion or extension, or the bones may be so locked as totally to prevent this motion. The proof that we have not to deal with paralyzed muscles is conclusive.

If both feet are affected, the same process of instruction, though less easily inculcated and requiring more patience, will generally be attended with success. If it is an infant that we are to examine, it is equally important that in addition to learning what tendons are shortened we should ascertain if any are paralyzed; electricity will not always aid us in this case, neither is it required. If we watch the child in the free exercise of its limbs, kicking and stretching in its mother's arms, we can often detect a slight effort at eversion of the foot, evincing contractile power in the abductors. We may more certainly produce this motion by tickling the inner edge of the foot near the great toe, or the inner margin of the sole. This will rarely fail to cause an attempt, more or less strong, often very decided, on the part of the abducting muscles to draw the member away from the cause of irritation, and thus at once testify to their willingness to do their duty if the opposing forces were removed. In a large majority of cases a careful examination will reveal the fact that paralysis has no share in the ætiology of congenital varus. This rule is so universal that the exceptions are in my experience extremely rare. Upon the diagnosis in this particular must our treatment to a considerable extent be founded, and by it also will the prognosis be modified.

In *non-congenital varus*, however, this rule becomes much qualified. The loss of motor power in certain muscles from some cause after

birth is not infrequently the origin of more or less inward inclination of the foot.

By the simple means which I have indicated, with modifications in accordance with the exigencies of the case, we can attain a delicacy of diagnosis often of essential service; we can fix the deficiency upon a certain set of muscles, and often upon a single muscle. In addition to this, or rather previous to the examination, we may note the physiognomy, so to speak, of the foot. Whether the deformity is slight or severe, there usually may be observed a certain lack of firmness about the dorsal aspect; not by any means, however, the relaxed or flaccid appearance of a paralyzed member. Ligaments, elongated or shortened, are simply passive elements in the condition of the foot, although often offering obstacles to its restoration. The character of those instances of varus which arise from traumatism or from other similar causes is for the most part easily ascertained. In a case some time since under treatment, an acute inflammation, almost localized in the os cuboides, caused a swelling of that bone and its investments, and produced as perfect a varus in general appearance as any originating in contracted tissue. Such an instance is extremely rare, and perhaps stands by itself in recorded cases.

In *talipes valgus*, whether congenital or non-congenital, the rule in respect to partial or complete loss of power in a muscle or in a set of muscles may be reversed or much modified. There is generally a want of normal vigor. It may be simply a deficiency of nerve influence, which offers no appreciable impediment to the appropriate means of cure. In such instances, or even if limited paralysis is present, there is often complete restoration of normal subjection to volition.

Two cases occur to my mind where there was partial dislocation of the foot outward, the internal malleolus being displaced inwardly, with extreme flexion, the foot lying against the leg; in neither of these cases was there paralysis. The deformity was removed in early infancy, the child in one instance walking at the age of ten months. Sometimes the cause of a slight eversion may be traced to a single muscle. The tibialis anticus alone may be in fault, and the imperfect gait and splay, parrot-toed foot may originate in debility or paralysis of that muscle. If the eversion is more marked the posticus may also be implicated, and if still further advanced the extensor longus pollicis may also have suffered, and still others may be involved.

Valgus exists in every grade, from the simple debility or paralysis of a single muscle, with or without contraction of antagonizing muscles, and with a scarcely noticeable lameness, to that in which the internal malleolus touches the ground at every step. The peronei, if not originally contracted, in progress of time become shortened, and finally the extensor longus digitorum and tendo-Achillis.

Equinus, again, is a consequence more frequently of tonic shortening of the *gastrocnemii* than of deficient contractile power of the flexors. Where this coexists the foot does not retain its direct extension, but diverges either inward or outward.

Arrest of development, causing deficiency of the lower end of the fibula, or *ununited fracture*, or *enervation* consequent on *spina bifida*, have each, in my experience, given rise to the worst forms of *valgus*, in which the lower extremity of the tibia has borne the weight of the body in walking. The case of *spina bifida* is of interest as being one of the few cases where the patient has reached maturity. She walks by the aid of artificial support.

Likewise, *varus* or *equinus* may, by injudicious treatment, be converted into *valgus* or into *calcaneus* with an inward or outward twist.

Congenital calcaneus is generally due to a weakened or abnormally stretched *triceps suræ* from position in utero, or to disturbed muscular equilibrium from paralysis; more rarely to a spastic contraction of the antagonizing muscles.

In an address by Dr. W. J. Little, delivered three years since before the British Medical Association at their meeting in Edinburgh, that distinguished surgeon gives a history of tenotomy, and the steps by which this operation was gradually applied to the different shortened tendons in the treatment of congenital *varus*. After speaking of the influence exercised by the posterior tibial muscle in the production of the deformity, and the importance of its division in many cases, and of the severance of the *tendo-Achillis*, anterior tibial, long flexor of the great toe, and plantar fascia in appropriate cases, and of the accompanying mechanical treatment, Dr. Little says: "No improvements on these principles of treatment have been effected since that period (1839). Individual surgeons have acquired technical skill, or have introduced modifications in apparatus. Evidence in proof of this assertion is afforded by the cases and illustrations appended to my work of 1839, already quoted. It was then with justice triumphantly felt that as regards congenital club-foot a success never before reached in the history of orthopedic surgery had been obtained. . . . Some tinge of enthusiasm may at that time have been pardonable."

Dr. Little then explains why the hopes then so justly entertained have not been fully realized, and refers to the fact that both in public and private practice patients constantly present themselves who have been only half cured, or not even benefited.

The neglect of the treatment after operation in cases where operation is required, and of that careful personal supervision and attention to the minutiae of mechanical treatment, is the sufficient explanation of this disappointment and of these untoward results.

In a note referring to this subject we find the following remarks:—

"I should fail in my duty to the profession and to the public if I did not unhesitatingly here state that many of the most able surgeons, as well in the metropolis as in the provinces, have inflicted much injury by heedless tenotomy, that is, through having undertaken the treatment of these cases without sufficient previous study of the subject, through insufficient acquaintance with the mechanical aids requisite, or disregard of the teachings of their predecessors as to the value of manipulations and the mischief resulting from keeping a part too long secured in an apparatus. I will adduce a case in point: A parent lately brought to me a child, four years old, who had originally been affected with congenital varus of average severity. The family surgeon had fruitlessly cut the tendo-Achillis, and used a so-called Scarpa shoe. The distortion being unabated, and the child already walking in the position represented in Figure 1 of this paper, the family surgeon sent the patient, with a letter of introduction, to the senior surgeon of a metropolitan hospital, who admitted the case into his hospital, and, in addition to redivision of the tendo-Achillis, severed the anterior tibial, kept the patient three months in the hospital, and sent the child home wearing an apparatus similar to that previously employed by the family surgeon, with the foot apparently none the better when examined out of the apparatus.

"A few months more elapsed; the deformity and difficulty of walking becoming aggravated, the child was again sent to the metropolitan surgeon, who again took it into his hospital, repeated the operation, ordered an apparatus, again leaving the mechanical treatment to his house-surgeons and dressers. After the second stay in the hospital—this time of four months' duration—the parents removed the child and brought it straight from the hospital to my house. The case was as bad as a case of neglected varus of four years old can be, with the aggravation of several large cicatrices above the insertion of the Achillis tendon into the heel, two considerable (by comparison) scars over the anterior tibial tendon. The posterior tibial tendon did not appear to have been touched.

"By this paper I desire to show that such occurrences are not desirable or unavoidable. I do not exaggerate when I say that I have come across many scores of such cases with the same history. These are not cases of accidental failure of treatment, but cases in which all the principles of treatment, as laid down in this paper and in many previous writings of my own and of other authors, have not been followed, and in which the surgeon has neither attended to the details of treatment himself, nor placed the management, after operation, in the hands of competent assistants. . . . The case (above referred to) has been restored to perfect form and movements, and will, I expect, need the aid of no supports or irons after three or four months."

This author further adds:—

"When we contemplate the perfection with which the worst forms of infantile congenital club-foot are, under favorable conditions, remedied at the present day, we may console ourselves for some disappointments, and be reassured that the subcutaneous method of Stro-meyer has conferred great blessing on humanity, has increased the usefulness of our profession, and given it an additional claim to the regard of society at large."

That unfortunate cases arising from causes similar to those referred to by Dr. Little are not confined to the other side of the Atlantic my own experience abundantly testifies.

Amid the conflicting inventions of apparatus, splints, bandages, etc., the question may be asked, What is the best method of treating talipes after operation, or where operation is not required? Not by the gypsum or starch bandage certainly, nor in all cases and through the whole treatment by the tin splint, or the gutta-percha sandal, or the india-rubber muscles, or the Scarpa shoe, or the Sayre shoe, or the triple-screw apparatus. Some two, three, or four of these arrangements may be employed in the process of cure, but to no one should we confine ourselves in the treatment of a typical or severe case of talipes varus or valgus. Neither should any one of them be applied so as to produce pressure

upon the same spot, or have its action unchanged for any number of days in succession. It seems hardly possible that in cases the cure of which is so dependent upon constant daily change of position, upon manipulation, and in every way imparting tone to overstretched or weakened muscles, that retention in plaster-of-Paris bandages for six weeks without removal should be recommended and practiced as an improvement in the treatment of these affections. Yet this course is advised by a writer in a recent number of the *Edinburgh Medical Journal*.¹ This author says: "In slighter cases three or four bandagings" (six weeks each) "suffice to affect this" (bring the foot through the first stage). "In the worst cases six or eight may be required."

In the milder forms of congenital talipes varus, according to this author, a period is required of from four and a half to six months before the foot becomes changed into a talipes equinus, and in the severer cases from nine months to a year may be needed before the same result is reached. The sum and substance of this treatment may best be stated in the words with which the article referred to is opened: "The treatment of congenital club-foot (talipes equino-varus) is one of the most difficult, tedious, and disappointing undertakings in the whole range of surgery."

We need no other commentary on the method or methods of treatment which have terminated in so discouraging a conclusion, — a conclusion so decidedly the reverse of that cheerfully set forth in some of the sentences I have quoted from Dr. Little, and so completely at variance with that which has been the result of my own experience. On the contrary, I would assert that in the whole domain of surgery there is no class of patients the treatment of whom is in the large majority of cases so entirely satisfactory.

The starch bandage is open to the same objections as the gypsum.

The tin splint may be useful in the beginning or in slight cases through the entire treatment if the patient is an infant, employed as is done by the English surgeons, but its form should be frequently varied and the points of pressure constantly relieved. We may use a Scarpa shoe, and it is a most valuable instrument in certain stages of the treatment. It makes but little difference whether we have a hinge in the instrument to correspond with the medio-tarsal joint or not. It has of late been said that the prominent part played by this joint in the deformities in question, or the importance of a special action upon it, has been overlooked by previous authorities. This statement is a serious oversight; no surgeon who has ever cured a club-foot — by cured I mean cured in its fullest sense — can have done so without faithful regard to this point. Certainly from the commencement of my treat-

¹ An Improved Method of Treating Club-Foot. By Alexander Ogston, M. D., Surgeon to the Aberdeen Royal Infirmary. *Edinburgh Medical Journal*, December, 1878.

ment* of this deformity it has received the attention which its importance demands.

There is no especial need of a joint, either with lateral or with combined rotary and lateral action, in the sole of the Scarpa, although such combinations are sometimes a convenience. The cup which retains the heel and ankle can well be brought sufficiently forward on the side of the convexity of the foot, and this, well padded, serves as a fulcrum for the medio-tarsal joint, and the spring at the side of the sole will then act powerfully to as good, or better, advantage as if there were such a joint in the instrument. The rotation movement is more easily applied if the sole is firm, that is, without the joints referred to, by means of narrow pads under the outer or inner edge of the foot, and a counter-pressure by the same means on the outer or inner edge of the dorsum. The action of the cross-straps does the rest. These simple appliances can be so changed and the degrees of pressure so varied that they are less irksome than other more complicated and less easily changed arrangements. The rotary and lateral action on the medio-tarsal joint is thus powerfully and equally produced, and the points of contact constantly relieved.

The triple-screw apparatus has always a lateral joint in the sole. This instrument is often of most important aid at certain stages of the treatment of even infantile cases of the severer grades. When the foot has been everted or inverted, rotated, and unfolded, the attempt at flexion at the ankle to the full extent of normal action is sometimes abortive. Then the gentle, graduated power of the screw is found most admirably adapted to our purpose, and facilitates and hastens our work. Perfect upward motion is thus obtained, and the member is now in a condition to go free of all incumbrance, excepting in the night, and in some instances for a portion of the day, when a retentive sandal may be worn, or a light Scarpa shoe.

In regard to the propriety or expediency of operative interference, again let pathological investigation and experience, backed by common sense, be the guide. In the majority of cases of varus of the third, and in many of the second, degree, my own experience confirms the united testimony of surgeons of the most extended orthopedic practice in regard to the value, not to say absolute necessity, of subcutaneous tenotomy. Without this we are simply thrown back to the ante-Stro-meyerian period. The sufferer is deprived of the advantage to be derived from that great stride in the surgeon's art, and is relegated to the benefit to be found in mechanical appliances alone. The reasons given for abandoning surgery in such cases are inconclusive and in the face of a vast amount of unprejudiced experience. The abuse of surgery, and not its use, is to be avoided, and it is its misapplication and inappropriate or inattentive after-treatment which has produced failures and consequent opposition. Cases which demand the tenotome are

generally sufficiently pronounced. The sensation imparted by the implicated tendon is to the experienced touch a sufficient indication. Where there is doubt, a trial of some extending apparatus or splint will settle the question.

The tibialis posticus is often overlooked, both in diagnosis and treatment, yet it is frequently an important element in the distortion, and its non-division the source of an imperfect result. The comparative difficulty and danger attending this operation has undoubtedly led to its omission in many cases where it was required. In the process of cure this tendon, not at first decidedly demanding operation, will sometimes offer resistance to further progress, and will need division. Likewise, in other instances, where, it may be, we have not considered it advisable to sever the tibialis anticus early in the treatment, we may find that restoration does not advance as rapidly as we had reason to expect, and trace the obstacle to this last-named muscle. In yet other cases, even after its division, disappointment may arise from too speedy union. In such instances, I have found that redivision will remove the check and give a renewed impetus towards cure. This course in respect to the anterior tibial is comparatively safe. The peculiar position of the posterior tibial in its connection with the ankle-joint renders such an alternative unlikely to occur, and under any circumstances, on account of its especial liability to contract adhesions, its redivision is unadvisable. But it is far better never to use the knife in the treatment of these affections than, after having used it, to neglect a single detail in the after-treatment, or fail to derive, by appropriate mechanical appliances, all the advantage afforded by the severance of the contracted tissues.¹ The after-treatment must never be intrusted to unaccustomed hands; success depends on constant, unwearied, personal attention.

Perfect union, free from adhesion, after division of the posterior tibial tendon may not be attained, and in some other instances such a result may be frustrated. But in those cases where this failure is most apt to occur, the complete integrity of the tendons is often of less importance than the obstruction offered by a permanently shortened and inextensible cord. Practically, where division has been skillfully performed, followed by appropriate treatment, the adhesions, if any, are so slight as not materially to impede muscular action.

Authorities are divided in regard to the period which should elapse after operation before extension is commenced. On this point my experience has led me to a different conclusion and practice from that

¹ As an instance of the importance which the author attributes to the observance of the minutest detail, he will mention that when the foot is undergoing its morning ablution it should, when in the water, be held firmly in the position it has gained while in the apparatus, and not be permitted for a moment while dressing to revert to its former malposition, if it is possible to prevent it.

recommended by Dr. Little. In non-paralytic congenital varus, all the parts implicated, tendon, ligament, fascia, and even the skin, are adapted to the deformity. By extending immediately, we run no risk of proceeding too far. Impediments at once present themselves and prevent too rapid restoration. It is important to gain all we can during the first few hours, from the amount of freedom obtained by the operation, before the process of healing has commenced. So true is this that in most instances where I have been led from some accidental cause to defer the application of splint or apparatus, I have had occasion to regret the delay. If the extension is postponed only until the next day the pain it causes is greater than when applied at first. There is more soreness at the seat of the operation, and the part operated upon bears less willingly the new position. I therefore say without hesitation, in those instances to which I here refer, extend at once; there is less suffering, the tissues yield more readily, and on account of the obstacles already mentioned there is no danger of extending too much. The shortened, deep-seated tissues soon present obstructions to too rapid progress. The danger sometimes apprehended of tearing open the wound is in like manner obviated. In fact, this is an accident I have never seen happen after any subcutaneous operation, although undoubtedly it may occur from ill-judged extension. I am convinced that it is only in cases where there has been error in diagnosis that the mischief feared can result, and that it is observation of cases treated by less experienced hands than his own which has led Dr. Little to advise a different course.

The injuries arising from injudicious pressure are not here considered, as they are in all cases unnecessary and always to be avoided.

In cases of talipes caused by *paralysis*, however, the manner of dealing with the complaint as regards immediate extension should be very different. In a majority of such instances the paralysis has apparently occurred late in uterine life, or has supervened soon after birth. There is a general relaxation not found where the ætiology is different. There is then great hazard of too rapid advance in extension after operation. In those cases where section is needed, extreme caution is required to prevent too great elongation of the newly formed material. The state of the parts is so unlike that usually present in the class of cases previously referred to that restoration should be conducted slowly and with constant reference to the possibility of producing a form of talipes the reverse of that we are treating.

Observation teaches that in many such cases the operation and treatment by the introduction of new tendon of a certain length, thus permitting normal use, strengthens and develops fibrous tissues and increases the power and size of the limb. This in contradistinction to the treatment by simple extension, which in the instances now under consideration stretches and proportionately enfeebles.

The propriety of operating in a certain number of this class of cases is undoubted. The resisting fibres are often stringy and inelastic. The attempt at stretching is far more weakening than division. In instances where simple extension is partly or entirely successful in restoring the form while the member is in the instrument, or for a short time after its removal, the debilitated opposing muscles are often unable to overcome the tendency to relapse. Experience has shown that the best and most permanent success attends upon those cases where structurally shortened muscles are lengthened by the interposition of new material carefully limited in its extent. This accurate measurement of the amount needed requires, undoubtedly, the exercise of a judgment familiar with the processes we are watching, and is often the source of anxiety during treatment. The perfection of the cure, however, which rewards the effort is such as can be gained in no other way.

The importance of manipulation, of active and passive exercise, of friction, of massage, and in some cases of electricity, cannot be too highly estimated, as affording most valuable aid during the course of the treatment, increasing the development and activity of the muscles and the usefulness of the limbs.

A CASE SUPPOSED TO BE PHLEBITIS OF THE LUNGS.

BY ALFRED HOSMER, M. D.

THE phrase phlebitis of the lungs is not a familiar one; it forms no part of the current language of professional conversation, and finds no place in the books. Its meaning may be partially inferred from analogy. It is not original with me; it was suggested by Dr. Morrill Wyman. When asked, by letter, in what vessels he supposed the morbid process to be located, he replied, "The pulmonary capillaries. In the arteries first, but continued through these into the veins." He adds, "Virchow and Wagner, article Embolia and their consequences, especially Wagner, give many facts which I think lend support to my views."

The subject of this report was an American, aged twenty-six, of good general health, of excellent habits, and brought up under circumstances of comfort and plenty. Engaged in a healthy occupation, he led an active life out-of-doors, within three miles of Boston. He had always been well. His father was a healthy man. On the maternal side there had been some cases of phthisis. His mother, at the age of forty-two, died suddenly with a fatty degeneration of the heart, twenty-nine days after labor. Some of her children exhibited the effects of that influence which has been denominated scrofulous. May 13, 1876, the patient returned from the Centennial at Philadelphia, and found the journey a laborious and fatiguing one. May 15th, an aggravation of certain sen-

sations which for some days he had experienced in a slight but increasing degree, convinced him that he was sick. He did not give up his business until May 20th, and six days later I made my first visit. I found the patient sitting up and dressed as usual. He was soon compelled to take his bed. The symptoms in their significance were vague and ill defined, and did not point towards any known or regular form of disease. The possibility of malarial influence was suggested by occasional slight chills; it was carefully sought, but could not be found. Nevertheless, the patient was so ill that on May 29th his pulse and temperature were respectively 120 and 104° F. The first definite indication of local trouble was obtained June 12th, upon which day there occurred a slight hæmoptysis followed by cough. The next day there came a severe pleuritic pain in the right side. June 14th, the face was much flushed. In addition to the sputa, which, sufficient in quantity, had all the characteristics that are included in the term pneumonic, there was going on a constant hæmorrhage from the lungs, the blood being of a bright, arterial color. The physical signs, commencing with crepitation (not fine), underwent such change that during the dates 15th, 16th, and 17th it was very easy to recognize small areas of hepatized or condensed tissue at three different points in the lung, while in the left back was one spot which was the seat of a similar affection. On the 18th, there was an admixture of coarse crepitus with the bronchial sounds of the previous days. The temperature was then 100° F. June 20th, the mind was somewhat confused, the tongue dry, and the temperature rising. The following day he was visited by Dr. —, of Boston. The hæmoptysis then was the most conspicuous, and seemed to be the most significant, of the numerous symptoms which pointed unequivocally to some pulmonary disease. A diagnosis of catarrhal pneumonia was made; it was feared that destructive processes of a serious character were in progress. The 22d and 23d brought some improvement in the aspect of the case. June 24th (the forty-first day), Dr. Morrill Wyman came in consultation. Then the expectoration consisted simply of mucus without blood. The suggestion of phlebitis of the lungs was made at that time, and with such explanations that it seemed to be a very reasonable and satisfactory theory. Four days later the temperature had become normal, and the condition of the lungs, as shown by physical signs, was decidedly better. The pulse was 108, and the respiration was 36. On this day the expectoration was rather small in quantity, but mixed with a large proportion of blood, some of it being of a dark, gangrenous color. From this time the pulmonary symptoms were as follows: The increased frequency of the respiration was long maintained, and is recorded at 30, July 26th, the seventy-third day. Cough continued in slight degree even up to the end of the eleventh week. Expectoration ceased on the sixty-seventh day, and up to the fifty-fifth day there

was almost constantly more or less hæmorrhage. Physical signs in the form of crepitation and diminished resonance at the points originally invaded were very persistent. At no time was dyspnœa complained of.

June 27th, the forty-sixth day, there came an attack which was of no doubtful nature, and which seemed to relieve the obscurity that had surrounded the true character of the thoracic disease. At 11.30 A. M., the patient was suddenly seized in the groin with a most violent pain, which soon took possession of the whole extremity. Very soon the toes became cool, and the capillary circulation sluggish. Swelling rapidly followed, and the limb was enormously enlarged in its entire length. The firm, corded, sensitive condition which was at once developed along the course of the femoral vein established the diagnosis. The subsequent history of this thigh and leg each one has already read in his last case of phlegmasia dolens. Throughout the case the temperature was variable and unsteady. It attained its maximum, 104° F., on the fifteenth day, May 29th. It was normal on the day preceding the attack of femoral phlebitis, and on the following day 100° F. The seven subsequent daily observations made in the morning were, respectively, 98.4° F., 102° F. (103.6° P. M.), 103° F., 101.2° F., 101° F., 99.8° F. After this, up to the seventy-seventh day, when it was normal, it varied sometimes with very sudden transitions from 98.4° F. to 103° F., reaching the latter figure on the seventy-second day.

The figures which represent the pulse-rate show that it somewhat resembled the temperature in its numerical unsteadiness. On the fifteenth day it was 120; on the forty-fifth 108. Immediately after the attack in the leg it again rose to 120, and on the fiftieth day to 150. From this point it fell in three days to 108, and afterwards ranged from 100 to 114, until the seventy-seventh day, when it counted 102.

On the part of the digestive system nothing of interest or importance was noticed. A slight nausea is recorded on the forty-seventh day. The nervous system suffered but little. The mind, as a rule, was bright and clear, and there was a remarkable freedom from headache. The sleep was fair; there was a constant restlessness and impatience, for which his temperament might account in part. There was loss of strength and flesh, of course, but nothing that approached emaciation or prostration. On the sixty-second day the patient first sat up.

The interesting features of the case are: (1) the tardy development of those symptoms which pointed out the location of disease in the lungs; (2) the persistent hæmoptysis combined and associated in a manner entirely new to me; (3) if the diagnosis be a correct one, the exceptional character of the pulmonary affection.

I frequently see the patient; his friends consider him well, but the process of convalescence has never been completed. The right side is often the seat of sharp pains, and the right leg, though somewhat vari-

able in size, has never recovered its original diameter. The swelling with which it is still affected now and then is increased to an inconvenient degree.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Death from Shock. — In a communication to the Breslau Physiological Society, Dr. H. Simon¹ calls attention to some of the recent views concerning the pathology of shock. That a comparatively small number of cases of death from shock are now reported is undoubtedly due to the more accurate knowledge of the causes of death as obtained by means of experiment and pathological anatomy, aided by the use of the microscope.

Simon includes under the term shock only those conditions in which a reflex paralysis of the respiratory and cardiac centres are caused by the powerful, violent, and sudden excitation of peripheral sensitive nerves. Czerny considers that death cannot be attributed to shock when a considerable interval of comparative well-being exists between the occurrence of injuries or an operation and death, although the latter may take place suddenly, and without the discovery of an anatomical cause. Nussbaum offers a number of explanations for such a result, as septicæmia, which is so dangerous in operations necessitating the opening of the abdominal cavity, owing to the great capability of absorption shown by the peritonæum; fat embolism of the lungs also, so often met with after bones have been crushed; then, the anæmia of old people, in consequence of which even moderate hæmorrhages are capable of producing acute marasmus; finally, the lowering of temperature in operations demanding a prolonged exposure of the peritonæum. The peritoneal and abdominal veins become widely distended with blood, on account of the removal of the elastic pressure of the abdominal walls upon the viscera, and large quantities of blood are thus exposed to the cooling process, which is promoted by the evaporation of fluid from the peritoneal surface.

Another element in the cause of death from shock after operations in the abdominal cavity is made evident by the experiments of Gutsch, which are here referred to, and have been corroborated by Simon. Gutsch maintains that the continued handling of the exposed peritonæum is the main cause of the shock in such cases, his opinion being the result of observations upon the temperature and blood-pressure of

¹ Allgemeine medicinische Central-Zeitung, 1879, liii. 689.

rabbits experimented upon. Although the temperature fell after the operation, its descent was by no means parallel with the course of the blood-pressure, which became progressively lower with the repeated handling of the peritonæum, and the longer the period of exposure to the irritants the less intense did they need to be. Gutsch therefore concluded that the sudden, otherwise inexplicable death after ovariectomy is rather due to the operation and the consequent repeated and continued irritation of nerve terminations, which produce a reflex central depression, as in the experiment of Goltz, probably by means of vascular nerves, especially of branches of the splanchnic nerves. Although the lowering of the temperature may be likewise of importance in occasioning death, its influence is far less than that of the irritation mentioned, and operators are cautioned against even the slightest manipulation of the peritonæum which is not absolutely necessary.

Origin of the Fatal Dyspnœa and Coma of Diabetes.—A cause which might give rise to the coma so often observed in severe cases of diabetes has been referred to in a previous report.¹ A fresh contribution to the obscure ætiology of this subject has been made by Sanders and Hamilton.² It occurred to them that the fatty condition of the blood occasionally noticed might give rise to fat embolism, and thus a mechanical cause for the dyspnœa might be present, which, if proven, would give a more satisfactory explanation of this symptom than the doubtful theory of acetonæmia. Fluid blood removed from the heart and kept in a vessel was divided in the course of half an hour into two portions, the upper of a milk-white color, the lower of a deep pink hue. The white layer was largely composed of an emulsion of oil globules resembling chyle. The odor of the blood was like that of acetone. The microscopic examination of the blood-vessels of the lungs and kidneys showed that fat embolism had taken place in them.

In the examination of the blood from a second case of diabetes, the lipæmic condition was evident, but no microscopical examination of the organs was made. The chemical examination of the blood showed the merest trace of acetone.

That the peculiar dyspnœa and coma closing cases of diabetes are due to lipæmia and fat embolism rather than to acetonæmia is to be inferred from the discovery of these conditions, and the importance of the latter in fatal cases of the fracture of bones, with the similarity of the dyspnœa and coma in the two series of cases. But little acetone was found in one instance, and the symptoms of poisoning by acetone are not identical with those observed in diabetes, nor does this agent produce similar changes in the blood and organs to those met with in diabetes.

Cutaneous Absorption and Albuminuria.—The occurrence of a case

¹ The JOURNAL, May 22, 1879, 712.

² Edinburgh Medical Journal, 1879, cclxxxix. 47.

of albuminuria without anatomical evidence of disease of the kidney, following an extensive dermatitis caused by an inunction with petroleum, led Lassar¹ to experiment with reference to the relation between albuminuria and absorption from the skin.

Soon after croton-oil was applied to the skin of rabbits an inflammation resulted, and the urine contained much albumen, although the kidneys presented no inflammatory changes. When an inflammation of the subcutaneous tissue was produced by turpentine no albuminuria followed, and it was inferred that the condition of the urine was not due to the inflammation of the skin, but to the use of croton-oil.

It is generally conceded that a pathological albuminuria is the result of increased transudation from the renal vessels in consequence of inflammation, or depends upon an increased permeability of the renal epithelium.

In the study of the method of action of petroleum it was found that after its application to the skin a resinous substance was first secreted with the urine, which was evidently a product of petroleum in the organism. Then an albuminate made its appearance, which was thought to be pepsin, or some other readily diffusible albuminate. Finally, the ordinary coagulable albumen was observed.

An examination of the kidneys made during the passage of the resin and pepsin showed no observable change, while during the passage of the albumen the epithelial lining of the tubules was seen to be in a flaky-granular degeneration resembling that occurring after poisoning with the neutral chromate of potassium.

The presence of innumerable fat drops in the interstitial tissue, epithelium, and tubes of the kidneys, and in the blood-serum and fluids of the tissues, as well as in the cells of the liver and lungs, was considered as evidence that the petroleum had been absorbed. The drops were most abundant in the subcutaneous connective tissue. Preparations made with osmic acid suggested that the passage through the skin had taken place by means of the hair follicles. The use of certain other oils showed that indifferent fats and oils pass through the renal epithelium without injury to it, but the integrity of the latter becomes impaired when chromium-salts, croton-oil, tincture of cantharides, tartar emetic, petroleum, and other irritating or poisonous material is secreted in any considerable degree of concentration. It is evident, therefore, that oily substances may pass through an unbroken skin and be eliminated by the kidneys without injury to the renal epithelium, and that an inflammatory irritant, when applied to the skin and producing a dermatitis, does not necessarily give rise to albuminuria. When, however, specific irritants are employed, local affections of the skin and kidneys

¹ Virchow's Archiv, 1879, lxxvii. 157.

result which are independent of each other, though both are effects of the same cause.

Origin of Hyaline Casts. — Making use of the property of heat in coagulating albumen, Posner¹ studies the changes taking place in organs which are filled with albumen in consequence of pathological changes. If the respective portions of organs are placed in boiling water for a short time the albumen becomes fixed in the places occupied by it, whereas other methods of hardening, with the possible exception of picric acid, remove the albumen. It is stated that no injury to the tissues results, and that the specimens can be subsequently stained, and permanently kept without injury in the various preservative fluids.

The spaces containing the albumen are filled with this material in a finely granular condition. Special stress is laid on the fact that by this method the merest trace of albumen can be demonstrated with certainty.

In the examination of the diseased kidney the albumen is made evident around the glomeruli and in the tubules. When the escape of albumen has taken place from the capillary net-work surrounding the tubes, this substance may be observed between the basement membrane and the elevated epithelium. It may be quite colorless, or yellow from the presence of blood-coloring matter, or quite hæmorrhagic. This method of examination shows that the large white kidney owes its appearance to a complete distention of the capsules and tubules with albumen.

The relation of the exuded albumen to casts was also studied, and evidence was obtained in opposition to the view of the origin of the latter from altered epithelium. The transition between albuminous and homogeneous masses could be distinctly observed, and wholly serous, partly hæmorrhagic, and partly homogeneous exudations could be found.

In the renal changes resulting from chromate of potassium the exudation was observed to surround and inclose the epithelium, and the beginning of the formation of casts was to be seen as a precipitate of glistening fibres appearing as a net-work on the border of the cells. When a circulatory disturbance alone was produced and abundant casts were present with unaltered epithelium, it seemed rational that if epithelial changes occurred they should be regarded as secondary. In cases where extreme degeneration of the epithelium is present, even with complete absence of the cells, there may be no casts at all, and in instances of limited destruction of the kidney the casts are absent in the necrosed part, though present in those portions where there is no alteration of the epithelium. It is thus probable that in the kidney at least the croupous coagulation of albumen is to be ascribed to the influence of living cells upon the coagulable albuminates of the albuminous urine.

¹ Centralblatt für die medicinischen Wissenschaften, 1879, xxix. 513.

Edema from Passive Congestion. — It has been long considered that an obstacle to the escape of venous blood from a part was a sufficient cause for œdema. Ranvier, however, from experiments made upon dogs, concluded that an obliteration of the veins alone did not produce œdema; but that this might occur, paralysis of the vaso-motor nerves must also be present. Subsequent experiments made by other observers have not been decisive nor free from possible complications, and Sotnitschewsky¹ has therefore endeavored to determine whether venous obstruction alone suffices to give rise to œdema, or whether a nervous paralysis is also essential. He found that if the larger veins of the dog were tied œdema did not occur, but this result followed when the smaller veins were cut off from the circulation by the introduction of plaster of Paris, which was permitted to set. The lymph thus accumulating presented all the qualities of stagnant rather than of inflammatory lymph, being fluid, red, with many red blood-corpuscles, though with but few white ones, and coagulated slowly, the clot being soft. It thus became evident that a paralysis of the nerves was unnecessary; furthermore, the microscopical examination showed an infiltration of the tissues, with red corpuscles rather than with white, as observed by Ranvier.

The writer explains the result of Ranvier's experiment as follows: An œdema did not follow the ligature of the inferior vena cava, as the collateral circulation prevented any great venous stagnation. After the vaso-motor nerves were cut, however, the arteries became widened; and such an increased quantity of blood was thus supplied that the venous channels no longer sufficed to insure its rapid removal. Passive congestion and transudation then result in consequence of the increased intra-venous pressure. Cohnheim's experiments in this direction favor such an explanation, and it is not to be considered that the section of the nerves is in any way an important factor in the occurrence of this form of œdema. The essential condition for the production of œdema from stagnation is such an obstruction to the venous outflow as is not neutralized by the existing collateral circulation. Such an incompetency exists when a ligature is placed about the entire limb, or when the collateral vessels are plugged with thrombi, and when there is an absence or scanty development of collateral vessels, as is to be found in the portal circulation.

Absorption by the Peritonæum. — In a communication to the Silesian Society for Internal Improvement, Ponfick² calls attention to the results of his experiments on animals and patients with regard to the absorption of defibrinated blood introduced into the peritoneal cavity. The experiments on animals showed that the blood was rapidly absorbed, and but little local reaction was present. A successful result fol-

¹ Virchow's Archiv, 1879, lxxvii. 85.

² Allgemeine medicinische Central-Zeitung, 1879, lxxi. 912.

lowed the transfusion of blood into the peritoneal cavity of three patients, only moderate fever and slight abdominal pain resulting, both of which rapidly subsided. In one case the benefit was very marked. The apparatus consisted merely of a rubber tube connecting a canula provided with a stop-cock and a funnel. The latter being filled with defibrinated blood, the canula was pushed through the abdominal wall and the fluid allowed to gravitate from the funnel. Additional defibrinated blood was poured into the instrument when necessary. The quantity thus introduced was two hundred and twenty grams in one case, two hundred and fifty grams in another, and three hundred and fifty grams in the third. The last quantity was not considered as representing the possible maximum.

(To be concluded.)

EXTRACTS FROM THE RECORDS OF THE ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

F. W. GOSS, M. D., SECRETARY.

NOVEMBER, 1878. *Cheyne-Stokes Respiration.* — DR. EDES read a paper on this affection. The phenomenon in question consists in a rhythmical change in the vigor and depth of the respirations, somewhat as follows: Beginning with a period at which the respiration is of exaggerated intensity, sometimes being even *dyspnée*, the depth of the respirations becomes gradually less and less, until they are nearly, and then quite, imperceptible to ordinary observation and to auscultation. No cyanosis or indication of distress or *besoin de respirer* is, however, to be noticed. After a duration of some seconds a just perceptible respiratory movement is to be seen, succeeded by a more ample one, and so on until the maximum of activity is reached, which may be either a full, ordinary respiration, or one sufficiently labored to be termed *dyspnée*. In many cases movements of various muscles, more or less voluntary, have been observed; among others, dilatation of the pupils, general movements of the body, turning over, or twitching of the limbs are not uncommon, occurring at the end of the apnœa, or with the shallow respirations which first succeed it. This form of respiration should not be confounded with that due to the falling backward of the tongue or to a paralytic condition of the glottis. It is evident that the phenomena of Cheyne-Stokes respiration are due to a lack of irritability of the nervous centres in the medulla oblongata, so that they fail to respond to their usual stimulus, namely, an excess of carbonic acid. The phenomenon has probably less value as an element in diagnosis than was at first supposed. It was thought by Stokes to be associated with fatty degeneration of the heart, but has now been seen in connection with other diseases of the heart, brain, and kidneys. The paper closed with a report of five cases of Cheyne-Stokes respiration, four of which occurred in members of the same family, namely, father, mother, and two sons. — DR. BOLLES asked if the peculiar respiration sometimes noticed in cases of compression of the brain would be excluded from examples of Cheyne-Stokes respiration. In such cases the

respiration grows less and less perceptible, then dies away; then comes a gasp, a long respiration, after which it dies away as before. — DR. EDES replied that the phenomenon was different, but that it very likely was somewhat analogous to Cheyne-Stokes respiration.

DECEMBER, 1878. *Cause of Puerperal Convulsions.* — DR. E. T. WILLIAMS read a paper on this subject, in which he protested against the correctness of the common view that puerperal convulsions are of necessity due to uræmic poisoning. He would acknowledge that the latter may be an important factor in many cases, that it may be an *exciting* cause; but he was wholly unprepared to allow that it is the *real* and *essential* cause, preferring to consider the disease as simply the climax of nervous excitation reflected from the irritated uterus upon the brain. The reasons for questioning the uræmic theory may be stated as follows: (1.) Puerperal convulsions may occur without evidence of renal affection, that is to say, without albuminuria or any evident diminution of the urinary flow. (2.) Extreme anasarca and albuminuria are phenomena constantly recurring, and yet labor often goes on without the slightest trouble. (3.) The ordinary effect of uræmic poisoning in the non-pregnant state, that is, in Bright's disease, is rather coma than convulsions. The latter may, to be sure, occur, but the poison, be it urea, carbonate of ammonia, or what not, acted as a *narcotic* poison. It is to be borne in mind that convulsions do occur in nearly all forms of narcotic poisoning. The clinical difference between genuine uræmic poisoning (from Bright's disease) and an ordinary case of puerperal convulsions is sufficiently marked in most cases to strike even a very careless observer. Puerperal convulsions are most like those of infancy arising from cerebral disease and the ordinary epileptic fit; but no one has suggested uræmia as the cause of these affections. The pathology of an ordinary convulsive attack consists in a high degree of irritation of the motor region of the brain or medulla, which irritation may be either *centric*, as in the case of injuries, inflammations, morbid growths, etc., or *eccentric* or *reflex*, from the same causes acting in distant parts of the body. The cases of convulsions due to cerebral hyperæmia or anæmia and those due to the action of poisons circulating in the blood, and acting by direct contact, probably, with the cerebral structure, may properly be classed as *centric* convulsions. In pregnancy we have an organ richly supplied with nerves, connected with the stomach, brain, kidneys, and other organs by the closest sympathies, which is brought into a state of peculiar functional activity. The rest of the system naturally participates. About the period of labor, the crowning act of the whole, this excitement reaches its acme. What wonder if the brain is sometimes dragged into sympathy to such an extent as to break forth into the manifestations of uncontrollable excitement! But how do we account on this theory for the almost constant existence of albuminuria in these cases? The same power of nervous sympathy which produces reflex irritation of the brain may produce a reflex irritation of the kidneys and urinary organs. The renal irritation thus excited shows itself by albuminuria and diminution of the urinary secretion, retention of urea and other urinary products in the blood. These in turn give rise to uræmic poisoning, and aggravation of the nervous excitement or irritation already existing. The reader did not deny the importance of this

factor as a complication of the case; he only objected to its being considered as the essential cause of the disease, and hence as the principal indication for treatment. — DR. EDES remarked that undoubtedly there are cases of puerperal convulsions without evidence of renal disease, but usually there is albumen or casts, or both, in the urine. Some women have chronic trouble with the kidneys, and yet not always convulsions in pregnancy. Some seven or eight years ago a physician sent him the urine of a patient who had had puerperal convulsions. The kidneys were found to be diseased, and they still remain so. Yet she has been a second time confined without convulsions. Some remarks having been made as to the use of opium in puerperal convulsions, Dr. Edes said that, according to one theory, there is anæmia of the brain in such cases, and there would be no contra-indication of its use then. Even intra-cranial hæmorrhage may not contra-indicate its use. The degeneration of the kidneys causes that of the blood-vessels.

APRIL, 1879. *Case of Typhoid Fever; Collapse; Resuscitation by Atropia given subcutaneously.*

DR. BOLLES reported the case, that of a manufacturer, aged forty, who had enjoyed average health. Two and a half years before he had an attack of dysentery, from which he recovered slowly. The present illness began with pain and distress in the stomach, with abundant formation of gas in the intestinal tract, and vomiting. When seen by Dr. Bolles his appearance was that of one suffering from acute dyspepsia. He had had headache for a fortnight. Pulse but little accelerated. Temperature 101° F. The next day the abdomen was still distended with wind, and the headache was severe. The lungs were examined with negative results. The abdomen and epigastrium were tender to the touch. The headache continued for the succeeding ten days, but the distress from flatulence was less, and the tenderness over the stomach was diminished. There was some soreness in the right iliac region, but it was not uniform nor constant. The bowels had been loose the day before, and four ochre-colored stools were passed on the fourth night, the result of a small dose of magnesia. The temperature rose slowly and uniformly each day, higher at night than in the morning, till it reached, on the tenth day, 104° F. The pulse continued at 70. There was delirium at night, and deafness and dullness of intellect supervened. After the fourth day the bowels ceased to move spontaneously. Directions having been given that if his temperature reached 105° F. the patient should be put in a wet sheet, this was done by the nurse on the tenth day. The temperature not declining, he was kept in it for two hours, and the bodily heat did not then lessen. He slept badly, and was in high fever during the following night, but seemed brighter and better on the eleventh day. On the twelfth there were dullness and bronchial respiration over the lower half of the right lung, evidence of lobar pneumonia, which probably began two or three days before, at the time of the highest temperature and the wet pack. On the thirteenth and fourteenth days, without being otherwise delirious, the patient became sullen and silent. His temperature had fallen to 101° F. Spasmodic twitchings of an opisthotonic character, which had been present for a number of days, were increasing. At three o'clock at night he suddenly collapsed without apparent cause, and became bathed in a cold, clammy sweat. The body felt like a wet and half-cold corpse. He was rational, but passive; without pain or discomfort, but excessively weak. The temperature dropped from 101° F. to 95.6° F., and afterwards to 95° F. The pulse varied between 40 and 52, and the respirations between 11 and 16. The nurse had already given three full doses of brandy by the mouth, and afterwards more by the rectum, without any sign of rallying the patient, when, at 8 15 A. M., Dr. Bolles gave a few drops of brandy subcutaneously, raising the pulse from 40 to 52. This was five and a quarter hours after the beginning of the collapse, and was just after a sinking spell in which the nurse thought him to be dying. The sweating continued unabated, the temperature as low as before, when, as a cardiac and respiratory stimulant, one fiftieth of a grain of the sulphate of atropia was given subcutaneously. The pulse was then 52, respiration 12 to 14, temperature

95.6° F. In a few minutes the pulse became perceptibly quicker and stronger, and at ten o'clock, half an hour later, Dr. Bolles recorded: "Has asked for water twice. Pulse stronger, 88. Limbs feel warmer; face with more color. Used bed-pan, and passed injections of brandy, displaying considerable strength. No perspiration. Respiration 17." At noon the face was flushed from the atropia; pulse 80; respiration 13 to 15; temperature 96.8° F. At seven P. M., pulse 76, temperature 97.8° F. The twitchings before mentioned continued, especially when the room was quiet. There was a strong opisthotonic jerk, awaking the patient if he was asleep, and startling him if awake. Subtulus tendinum and carphologia, which had been observed for several days, were increasing. At three P. M., twelve hours after the collapse, the temperature was 98.2° F.; respiration 15; pulse 70. At 3.30 P. M. brandy and atropia (one hundredth of a grain) were given. At 9.30 P. M. he was fairly out of the collapse. The next day, the sixteenth, he lay delirious, and in a state of obstinate vigilance. This state continued with frequent opisthotonic jerks, which he would keep up for hours. In these spasms he would roll his eyes gradually upwards by a series of slight jerks, as though trying to look at something over his head. Then his head, by a similar series of jerks, would bend back into the pillow, and partially lift the shoulders from the bed, when a final twitch would end the performance, and he would settle down into a natural position, immediately to go through the same act again. On the eighteenth day he became wild, and failed to recognize his attendants. On this day he had two spells of convulsions, an exaggeration of those already described, after which he fell into a spurious coma, and later into a more natural sleep. Vomiting coming on, he was fed for the next day or two by the rectum. Afterwards convalescence became established. The urine was never abnormal.

Dr. Goss asked if the wet pack had anything to do with bringing on the pneumonia. — DR. BOLLES replied that he thought it was already coming on when the wet sheet was employed, although had he known it he would not have advised the pack. — DR. WILLIAMS asked if the convulsions were tonic. — DR. BOLLES said that it was a question if they were not hysterical. It was remarkable when the temperature was 95.6° F. for six hours, and 96° F. for several hours more, that recovery should have taken place. It seemed as though the heart and lungs would stop from sluggishness. He believed the atropia by stimulating these organs saved the man's life. — DR. EDES, who saw the case in consultation, remarked that when he was called the evidence of typhoid fever was not satisfactory to him, that of the pneumonia was clear.

PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

A. P. RICHARDSON, M. D., CORRESPONDING SECRETARY.

NOVEMBER 30, 1879. An interesting paper was read by Dr. Allen, of Acworth, N. H., on the Circulation of the Blood. — In the discussion which followed, Dr. Allen, of White River Junction, Vt., remarked upon the effect of high altitude upon valvular disease of the heart, stating that it would be unfavorable.

Quinine. — The president, Dr. Nichols, read a paper on the therapeutical uses of quinine. He compared the present use of this drug with that of thirty-five years ago. In non-malarial neuralgia it aggravates the pain, and is not useful in such cases. As a febrifuge it is of great value. Its influence on the uterus in labor he has not been able to detect, but has given it in doses of five and ten grains to twenty-five cases within two years, with no apparent

effect, except in one case, when it may have increased the pains. His most common use of quinine is as a tonic, especially useful when the skin is flabby and there is an inclination to perspiration. — Dr. Crain remarked that he had seen no appreciable effect of quinine upon the pregnant uterus. In the paroxysm of intermittent fever he had administered drachm doses, thereby breaking the fever, and thought that large doses produced no worse head symptoms than small ones. — Dr. Allen would give quinine in the paroxysm, and not in the cold stage of the fever. — Dr. Furness had himself taken one hundred grains in ten hours, in the intervals of the paroxysms, his axillary temperature in the hot stage being 108.5° F. — Dr. Cummings gives ten or twelve grain doses in intermittent fever. He had given quinine to pregnant women suffering with malarial fever, with no uterine effect. In typhoid fever and pneumonia, Dr. Furness gives from twenty to forty-five grains of quinine, in the evening by preference, to lower the temperature, and always breaks a high range of temperature with two or three doses. Has treated twenty-five cases of typhoid fever within the last two years. Twenty or thirty grains generally reduce the temperature three or four degrees. Such doses were thought to weaken the heart while reducing the temperature. — Dr. Holton said that quinine was an oxytotic only when the woman was worn, from its effect upon the nervous system, influencing the motor nerves through the sympathetic system.

Thrombosis. — Dr. Holton read a paper upon this subject, after which he related in detail the circumstances attending the recent death of Rev. Horace Burchard, of Brattleboro', Vt. The autopsy revealed an embolus in the right ventricle of the heart, half an inch wide and five and one half inches long.

Apoplexy in a Boy Fifteen Years Old. — Dr. Tyrrell reported the case. A boy, apparently healthy, was quietly playing, complained of violent headache, and died within a few minutes. There was no history of injury. Post-mortem examination revealed extensive clots over the cerebellum.

Peritonitis. — Dr. Nichols reported a case, still under treatment, of distinct abscesses following idiopathic peritoneal inflammation in a female recently married. Ten ounces of pus were aspirated from the right side of the abdomen near the umbilicus. On the left side there was effusion. The patient was in a septic condition.

Typhoid Fever. — Dr. Crain exhibited specimen of an ulcerated ileum from a recent case of typhoid fever. — Dr. Furness, physician at the Windsor state prison, said there had been ten cases of typhoid fever at that institution since August 1st. Last year there were twenty-five cases. He attributed the cause to bad ventilation, the air being vitiated by the excretions of the inmates. The attention of the National Board of Health has been called to these facts, and the prison visited by its representative.

Spontaneous Closure of Punctured Wound of Bladder. — A farmer, aged thirty-two, while descending from a hay-mow fell, striking upon a sharp cart-stake fourteen inches long and two inches in diameter at the base. The stake entered the body posterior to the anus, penetrating the bowel; then taking a direction upward and forward, it passed through the anterior wall of the rectum, and punctured the bladder, probably near the neck. The bowel was found distended with fecal matter, and was cleansed, as was also the wound,

with carbolized water. Three ounces of bloody urine were drawn by the catheter. The after-treatment consisted of rest and cleanliness, the wound being syringed twice daily; the urine was drawn every three hours by means of a soft-rubber catheter, but dribbled through the wound for three weeks. The temperature did not rise above 102° F., and there was little tenderness of the bowels. Recovery was complete in six weeks.

On account of the remarkable state of good health and almost entire freedom from epidemic disease reported up and down the Connecticut River Valley for the past year, it was voted that the records be made to show the fact.

HEALTH PRIMERS.

THE attention to health on the part of intelligent people of all classes, in France, Germany, England, and the United States, has lately become so great that a special literature has been found necessary to meet the demand for information on sanitary matters. Although these books are often suggestive and useful to the physician, their chief advantage consists in combining scientific knowledge with a plain style, free from technicalities, and designed for persons who know very little of the subject. Baths and Bathing, of the English series, republished by Messrs. D. Appleton & Co., treats of the physiological action of baths, the varieties of baths, bathing localities, the uses of baths, and a visit to a bath in so clear and concise a way as to make it fully deserve the high commendation which we have already given to the others of the series. Messrs. Lindsay and Blakiston are also issuing health primers adapted to American wants, which in many respects are quite different from those of other countries. We have already received *Long Life and How to Reach It*, by Prof. J. G. Richardson, a work of many excellences, although we feel bound to express the opinion that the author has overstated the prevalence of adulteration in food, the danger of tape-worm from underdone *beef*, and the risk of trichinosis. It is new to us that vinegar made — “often manufactured” — from dilute sulphuric acid would be “apt to bring on diarrhœa, dysentery, and ulceration of the bowels.” *Summer and its Diseases*, by Dr. James C. Wilson, and *Winter and its Dangers*, by Dr. Hamilton Osgood, are especially valuable in our climate, and should have a wide circulation. General attention to their suggestions would save many an illness, prevent long years of suffering from chronic disease or ill health, and postpone undertakers’ bills.

BARTHOLOW ON HYPODERMIC MEDICATION.¹

THE facility and certainty which attend the use of drugs administered by the hypodermic method, and the many new agents which have been found to be of more or less value since the first edition of this useful manual was printed, have called for a revision of the whole subject. Beside important ad-

¹ *The Treatment of Diseases by the Hypodermic Method: A Manual of Hypodermic Medication.* By ROBERTS BARTHOLOW, M. A., M. D., LL. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, of Philadelphia, etc. Third Edition, enlarged. Philadelphia: J. B. Lippincott & Co. London, 16 Southampton Street, Covent Garden. 1879.

ditions to the therapeutics of those drugs which have long been in general use, the author presents new chapters on the Morphia Habit and its Treatment, Duboisia, Pilocarpine, Chloroform, Chloral Hydrate, Apomorphia, and Aquapuncture. The opinions of the best English, French, and German physicians are fully set forth, and the author's own views are fortified by the results of careful experiments upon several colleagues, made with especial reference to the action of morphia and atropine. In the use of morphia attention is called to the varying susceptibilities of patients, and to the fact that the first dose should not be more than one third of that ordinarily administered internally. One twelfth of a grain is thought to be enough in many instances, and it is said that the maximum doses may be safely injected if combined with atropia. The various uses of pilocarpine are given, with a caution against its employment in cases where there is a weak heart, and a statement that it has the power to abort an impending ague chill.

Professor Bartholow draws a true but melancholy picture of the extent to which the morphia habit, often formed in consequence of the legitimate use of the hypodermic syringe, now prevails; he says, "No matter how much the original prescription may have been justified in the condition of the patient, if the habit be formed, the mental and moral degradation which ensues will always be referred to as the blunder or the crime of Dr. So-and-so."

The appearance of the volume is particularly attractive, and it is to be commended as the best work published on the hypodermic method.

HABERSHON ON DISEASES OF THE STOMACH.¹

THIS is a very careful and complete little treatise on the varieties of dyspepsia, their causes, and modes of treatment; ulceration and cancerous disease of the stomach; and, finally, spasm of its muscular structure. The author lays stress upon the general sympathy of the stomach in disease, discusses at length the symptoms of gastric affections, and then enumerates and describes the many forms of dyspepsia as depending upon weakness, congestion, inflammation, mechanical causes, fermentation, rheumatism, gout, diseases of the liver kidneys, duodenum, brain, lungs, and uterus. The hypochondriacal form also receives appropriate notice. As the source of dyspeptic ailments is often involved in obscurity, all aids in discrimination are of importance, and the fact that this work has reached a third edition is an indication of its value.

A CIRCULAR FROM THE MASSACHUSETTS STATE BOARD OF HEALTH.

WE have received from the secretary of the State Board of Health and various other things a circular, which has been sent to physicians throughout the State, stating that "the health department is very desirous to get as much information as possible with regard to disease caused by bad sanitary arrange-

¹ *On Diseases of the Stomach, the Varieties of Dyspepsia, their Diagnosis and Treatment.* By S. O. HABERSHON, M. D. Lond., Fellow of the Royal College of Physicians, etc. Third Edition. Philadelphia: Lindsay and Blakiston. 1879.

ments in country hotels and boarding-houses, to which people naturally resort for the benefit of pure air." Those receiving this circular are requested to give in the table prepared for the purpose any cases they may have observed, during the year 1879, of "diarrhœa, sore throat, tonsillitis, erysipelas, dysentery, typhoid fever, cerebro-spinal meningitis, or diphtheria, fairly attributable to bad sanitary arrangements in country boarding-houses and hotels; also to state what, if any, other diseases have been more severe in their course or fatal in their result by such sanitary defects, noting the situation and condition of wells drains, vaults, cess-pools, barn-yards, etc.; the presence of decaying organic matter, dampness, or water in cellars; the character of the soil; exposure of sleeping-rooms to drain emanations, etc." Negative statements are also requested, and, when desired, information will be regarded as confidential.

We sincerely hope that this opportune effort of the health department may meet with deserved success in extending our knowledge on the subjects in regard to which information is sought, and in checking avoidable disease by which every year many unnecessary victims are carried off. We hope every physician receiving the circular, and especially those practicing in summer at country resorts and watering-places, will take the time and trouble to reply fully and carefully to the questions asked, and to give the results of his individual experience, even if it be of a negative character. The too common apathy which neglects to contribute to the end which the department has in view is a sin not of omission, but of commission, and the medical man who omits to warn against a nuisance is almost as guilty as the proprietor who persists in preserving it.

There are two kinds of summer habitations in making the acquaintance of which it is prudent to begin with a little aversion, namely, the hastily-constructed hotel of the modern mushroom watering-place, and the old-fashioned farm-house, where conservatism lodges several families under a roof designed to cover one. Pure air, at least, the country and the sea-shore should afford. Fashion in hygiene and consequent commercial considerations will do much to correct evils, but the cordial coöperation of the profession is needed to prevent them. Two useful papers containing suggestions for preventing the spread of scarlet fever and diphtheria accompany the circular.

A DIRECTORY FOR NURSES.

THE announcement of the immediate opening of a new directory for nurses in the Medical Library Building in this city appears in our present issue. We gladly take this opportunity to call the especial attention of our readers and of the general public to it. We say a new directory of nurses, though we believe a registration upon a similar scale and systematized method has not before been attempted, at least in this city. Much pains have been taken by the management, which is composed of three experienced ladies and two active physicians, to consult the reasonable requirements of the public, of the profession, and of the nurses themselves, and the directory can hardly fail, we feel assured, to prove of the greatest convenience to all.

In addition to the names and residences of nurses, there will be a registry of their engagements, their especial acquirements and aptitudes, their charges, and their references to physicians and previous employers, with such information as may be derived from these sources in regard to each individual. Applications from the country by letter or telegram will receive prompt attention. We are informed that already more than sixty nurses are registered, including many of the graduates of the training schools, and this number will without doubt be much increased when once the directory is in active operation.

To the necessity for such a registry there is from all sides the most ample testimony: from physicians, who may have spent several hours in driving about the city for a desirable nurse, — and this is not an uncommon experience; from the laity, who frequently arrive at the real character or acquirements of a nurse by personal experience only; and from nurses, who, though capable, often find great difficulty at first in bringing themselves to the notice of the public.

We congratulate the management upon the zeal and energy which they have shown in making provision for this acknowledged necessity.

JAMES AITKEN MEIGS.

LIKE a thunder-bolt from a clear sky to the friends of Jefferson College comes the announcement of the death of Professor Meigs, after an illness of a week's duration. Possessed of an apparently invulnerable constitution, to which the exactions of a large practice were a pastime, attending at one period more than two hundred and fifty obstetrical cases in a year without any perceptible injury to his health, delivering from two to four lectures a week during the greater part of the year, in addition to attendance upon a large private practice, he was a marvel of application and industry to those acquainted with him. His organization appeared the embodiment of vigorous health, and gave every promise of a green old age, especially as he was remarkably temperate, even abstemious, in his habits. It has been said that he had never been known to miss a lecture on account of ill health until the few days preceding his death. His last lecture was delivered at Jefferson College, on Saturday, November 1, 1879, when he spoke with his usual earnestness and vigor, closing with the significant words, "Gentlemen, what I am seeking to impress upon your minds is that, physiologically speaking, a man's age is not to be measured by his years."

Professor Meigs was always a favorite with, as he was a true friend to, the students, winning their confidence by his kind and sympathetic manner, invariably having words of encouragement for them after referring to his own early struggles. Having a pleasant word for all he met, never too busy to stop and chat, he was ever welcome in the sick-room, and won the regard, as he had already the respect, of his patients. Having such eminently social qualities, it was a matter of surprise to his friends that he never married; but he stated that, having been always a great student, he could never find the time for it at the period of life when he was most likely to contract such an engagement.

At the time of his death, and for several years previous, he was collecting the material for an extensive treatise on the subject of Woman's Place in History, in which he intended to show in what way the current of history, in numberless instances, had been changed, and the course of its chief actors directed by the hidden influence of some member of the weaker sex. If the writer correctly understood his meaning, from various conversations on the subject, he held the opinion that the mind of woman was of finer fibre, her intuitions more clear, her mental processes of a higher type, than those of man, but that her weaker physical organization had kept her in the background, where her contribution to history has been generally overlooked in a mere record of events, except in some isolated cases. Such a work as he proposed would have been a most valuable contribution to the philosophy of history, and from the fact of his systematic and thorough manner of study and his wonderfully retentive memory, aided by his very facile and interesting style of writing, it is certain that it would have been very acceptably done, and would have established the author's reputation as an original thinker and indefatigable student, of which he had already given proof in his writings. He had also in prospect the compilation of a bibliography of physiology, which should include everything that had been contributed to this department of medical science. It is believed that fragments of both of these large works are among his papers, but in all probability not sufficiently complete for publication. It will be remembered that Professor Meigs delivered a valedictory poem to the last graduating class of Jefferson College, which gave evidence of unusual powers, correct taste, and graceful expression. For his theme he selected the Epithalamium of the Young Physician in taking Fair Hygeia as his Bride. The poem received many flattering notices from the press.

The reputation of Professor Meigs as an ethnologist, in which character he is most widely known, was established by his labors at the Academy of Natural Sciences in Philadelphia, while in the preparation of a systematic catalogue for the academy. He contributed to Nott and Gliddon's *Indigenous Races of the Earth* an essay on the Cranial Characteristics of the Races of Men, — an essay which showed an intimate acquaintance with the subject, presenting as it does a general survey of human skulls in their ethnical relation. To the *Proceedings of the Academy of Natural Sciences*, the *Reports of the Smithsonian Institution*, and other like publications, he has contributed at various times many original articles on craniography, such as *Hints to Craniographers upon the Importance and Feasibility of establishing some Uniform System by which the Collection and Promulgation of Craniological Statistics and the Exchange of Duplicate Crania may be Promoted*; *Description of a Deformed, Fragmentary Human Skull, found in an Ancient Quarry Cave at Jerusalem*; *Observations on the Form of the Occiput in Various Races of Men*; *On the Mensuration of the Human Skull*; and *Observations on the Cranial Forms of the American Aborigines*, as well as numerous reviews, etc. In October, 1872, he delivered an address at the laying of the corner-stone of the new building for the Academy of Natural Sciences in Philadelphia.

A native of Philadelphia, Dr. Meigs was educated at the public schools of this city, and was graduated at the Jefferson Medical College in 1851. He

was the assistant of Prof. Francis Gurney Smith at the Pennsylvania College, and succeeded him in the chair of physiology (in 1859), which he retained until 1861, when he, with several of his colleagues, resigned. In June, 1868, he was elected to the position of professor of the institutes of medicine and medical jurisprudence at the Jefferson Medical College, which he filled with exceptional ability up to the time of his death. He was physician to the dispensary known as the Howard Hospital for thirteen years, and was for several years attending physician to the Philadelphia and afterwards to the Pennsylvania Hospitals. He was also one of the board of trustees of the Polytechnic College of the State of Pennsylvania. He had in nearly thirty years' practice been unusually successful, and acquired considerable means. Of his immediate family his father alone survives him; he will be sincerely mourned by the many who had experienced his native goodness of heart and his sympathizing disposition.

Professor Meigs died of pyæmia at his residence in Philadelphia, on Sunday, the 9th of November, 1879, aged fifty years.

MEDICAL NOTES.

— We were pleased to notice last summer that the Hingham Steamboat Company and the Boston and Lowell Railroad Company had employed a competent specialist for the examination of the color sense and the visual power of their employees. With the rest of the community we supposed that the tests of the railroad *personnel* since reported by the daily press were also conducted in a similar thorough manner. It seems, however, that these have been carried out by the railroad commissioners, without expert assistance, and they, according to the papers, have even detailed a *conductor* to examine the employees of the Fitchburg Railroad. The whole thing would be amusing, were it not that danger for the public is concerned. The control of color-blindness and visual power will come here, as in Europe, as a matter of necessity. On the foreign roads not even the regularly appointed railroad surgeons were found competent to make the necessary examinations, and their work had to be done over again by ophthalmic experts.

— The stand taken by the daily press of this city in regard to the exclusion of religious dogmas from the public school curriculum meets with our hearty approval. We could wish that our contemporaries were as little influenced by exclusive medical dogmas.

— The Boston correspondent of the *Chicago Examiner* makes the following pertinent remarks on the recent action of the council of the Massachusetts Medical Society: "The question having been brought to an issue, it is thought that the effect of the decision will be practically trivial. In New York and Rhode Island, medical societies have opened their examinations to women, but less than a half dozen of the latter have been successful. In our State the censors have made the examination so rigorous that it is by no means easy for a medical graduate to pass. I need not say that the stronger minds hope the noble old society will not lose its time-honored dignity. It will be severely

tried by the admission of women, and it will not be surprising if many members refuse to attend the annual meetings. Notwithstanding the fact that the council is composed of one out of every eight members from all parts of the State, the very small majority is a strong indication that if the vote could be taken in general meeting the result would be the reverse. One thing is absolutely certain: if the decision were left in the hands of the Boston members of the society, it would bring forth a decided no.

"On the other hand, if women are to be admitted, the question of their medical education at once comes to the surface. And this, perhaps, will reopen that other question, namely, their admission to the Harvard Medical School on equal terms with men. Otherwise, how can Massachusetts women secure a medical education of such quality as will fairly admit them to the society? In spite of the decision of the councilors of the society, this matter is by no means settled.

"If the doors of the Harvard Medical School are ever opened to women it will be by the overweening influence of non-medical committees, whose members do not begin to conceive what it means to unite young women with young men in the co-study of medicine, surgery, and obstetrics.

"No delicate, womanly woman can thus unsex herself. And the women who can associate themselves with men in a full course of medicine and surgery are precisely those who lose that chivalric respect which manly men feel for true womanhood.

"Far be it from all broad minds to object to the adoption of a medical life by women, but let them have their own schools; otherwise female medical students will become a sort of *genus*, a distinctive class of women."

— Professor Dépaül (*Gaz. des Hôp.*) urges the usefulness of auscultation in uterine hæmorrhage during labor, and illustrates by a case in which, as the head was approaching the vulva, two or three spoonfuls of blood suddenly appeared between the thighs of the patient. Dépaül at once auscultated the uterus, and found the fetal heart beating irregularly. This indicated that the child was suffering, and hence delivery was hastened. This procedure in similar cases is earnestly recommended by Dépaül, not only for the sake of the child, but because when hæmorrhage occurs during labor it generally indicates a partial detachment of the placenta, and thus endangers the life of the mother.

— Chemical analysis having long shown that the waters of the Dead Sea in Palestine are rich in chlorate of potash, a company has been formed, and already commenced operations to extract this salt from its waters. It is stated that in this way chlorate of potash can be obtained thirty per cent. cheaper than by the cheapest process thus far known.

— Hot water is used to a considerable extent in many of our hospitals as an application to wounds, after surgical operations, to check oozing, which seems to be especially liable to follow the use of the Esmarch bandage. As a hæmostatic this agent is very efficient, and commends itself to surgeons. It is thought, however, by some who have used it that it favors granulation rather than union by first intention.

— The *Medical Press and Circular* copies the following case from *Nature*: "A young carpenter received on his right foot a blow from an axe. The big toe was almost completely detached. Dr. Gavey, being called, removed the

toe, washed it and the wound on the foot, adapted the cut surfaces one to the other, bound them together by means of lint saturated with collodion and applied along the toe. When the collodion had hardened another strip of similar lint was bound around the wound. The foot was then rendered immovable by an apparatus. At the end of twelve days there was no unpleasant odor; at the expiration of twenty-four cicatrization was perfect." These details are somewhat meagre, no mention being made of the dressing used. The *Press and Circular*, however, infers that antiseptic precautions were employed, but thinks the prompt succor might have been equally successful under the old method.

—The *Virginia Medical Monthly* quotes the very sensible remarks of Drs. Davis and Routh on the danger of feeding infants upon starchy foods, arrowroot, corn starch, tapioca, rice, oatmeal, crackers, bread, etc. Until after dentition diastase is not secreted by the salivary glands; starch food therefore remains in the stomach and intestines as a non-assimilable, foreign substance, whose tendency is to irritate the delicate mucous membrane. Dr. Routh says: "I cannot conceive anything more injurious than arrowroot feeding. I believe it is a cause of the death of many infants." Before dentition nothing can take the place of or add to the nourishing properties of milk.

—We have just received Lindsay and Blakiston's Visiting List for 1880. It contains, beside blank leaves for the visiting list, spaces for every description of memoranda, directions for antidotes for poisons, the metric system, table for calculating the period of pregnancy, and many other useful facts.

NEW YORK.

—The issue of the *Sanitary Enquirer* for November 1st gives full details of the terms of the five-hundred-dollar competition for a model school-house, and announces the committee of award as follows: George B. Post, New York, John S. Billings, M. D., U. S. A., John D. Philbrick, LL. D., Boston, Prof. William R. Ware, Boston, and C. R. Agnew, M. D., New York. It also contains the first of a series of articles by Dr. D. F. Lincoln, of Boston, and other experts on sanitary school construction.

—At the last meeting of the board of trustees of St. John's Guild, the Rev. John W. Kramer, D. D., rector of the Church of St. John the Evangelist, was unanimously elected master of the guild. Dr. Kramer has been for a number of years an active member of the State Charities Aid Association, and will no doubt make a very efficient officer of this society, which has accomplished so much good by the excursions of its floating hospital during the past few summers.

—Dr. Oliver White, an old and prominent physician, died November 7th. He received the degree of M. D. at Yale in 1831, and has practiced his profession in New York ever since. He has been president of the County Medical Society, and vice-president of the Academy of Medicine, of which he was one of the founders, and at the time of his death was president of the medical board of the Presbyterian Hospital.

—Dr. John Jay Abernethy, medical director United States army, who recently died in this city, in the seventy-fifth year of his age, bequeathed the sum of \$10,000 to Yale College.

— Ex-Governor E. D. Morgan has made a generous donation of \$25,000 to the Manhattan Eye and Ear Hospital, a worthy institution, which has thereby been placed upon a solid and permanent financial basis.

PHILADELPHIA.

— The vacancy, caused by the death of Professor Meigs, in the chair of physiology at the Jefferson Medical College has been filled, by unanimous vote of the faculty and with the concurrence of the board of trustees, by the appointment of Dr. Henry C. Chapman to lecture during the remainder of the term. Dr. Chapman has been for the last two years demonstrator of experimental physiology to the college, and during that period has lectured in the spring and summer course. He has also been, for several years, professor of physiology at the Pennsylvania Dental College, where he delivers a systematic course of lectures on this subject each winter. Dr. Chapman was graduated at the Pennsylvania University, Department of Arts, in 1864. In 1867 he took his degree from the medical department, and was subsequently resident physician at the Pennsylvania Hospital for two years. During the prolonged illness of Prof. F. Gurney Smith, Dr. Chapman delivered a course of lectures on physiology to the class at the University of Pennsylvania. In 1877 he also received a degree from Jefferson College. He has been physician to the coroner for the last five years; prosecutor to the Zoölogical Society; member of the Philadelphia Academy of Natural Sciences, and the American Philosophical and other societies. He has written a popular work explaining the principal facts of embryology and evolution, and has contributed a number of papers to the Proceedings of the Academy of Natural Sciences, chiefly upon topics relating to comparative anatomy, in which he has been especially interested. The college is to be congratulated upon finding so able and acceptable a lecturer to act as substitute at such short notice, and one who can proceed directly, as Dr. Chapman is now doing, without any interruption to the course.

TWINS AND CÆSAREAN SECTION.

LETTER FROM DR. MUNDÉ.

MR. EDITOR, — In the Medical Notes from New York in the number of your journal for November 6, 1879, I find a report of a case of Cæsarean section recently performed at Charity Hospital, which is incorrect in several important particulars, and does injustice to the members of the staff in whose service the case occurred. As I was on duty at the Maternity Hospital at the time, and the case in question, although actually in a ward in Charity Hospital, devoted to women awaiting their confinement, was under my care (the waiting wards at Charity as well as the lying-in wards at the Maternity proper, which is a separate institution, one mile distant from Charity Hospital, are under the care of the visiting staff of Maternity, who call there only when their services are required), I feel it incumbent upon me to give the exact facts in the case.

Your correspondent states that "when she was about dying the Cæsarean

section was performed upon her, and a living child was extracted from the uterus. She did not long survive the operation," and at the coroner's autopsy, on the following day, a second child was discovered in the uterus. This implies that through the negligence of the operator the second child was allowed to die *in utero*, when it might have been extracted alive as well as the first.

The truth is as follows: I was informed on the Sunday preceding the Tuesday on which the operation was performed that a woman in about the seventh month of pregnancy was in a moribund condition in one of the waiting wards, and that in case of her death *post-mortem* Cæsarean section was proposed. I saw the woman (for the first and last time), and found her so cheerful and in such good spirits, pulse strong, and intellect clear (no signs of the ill-usage on the part of her husband), that I told the chief of staff that I hardly thought we should have a Cæsarean operation in this case. I therefore merely placed my hand on the abdomen to ascertain the size of the uterus, and passed on, leaving word to be sent for in case a change took place, as I wished to perform the section myself. On the Tuesday following, on my return from my rounds, I was informed that I had been sent for at about 9.30 that morning, shortly after my departure, to come at once to Charity. Although sure of being too late, I hurried over, and found that the *woman had died* at about 10.30 A. M.; that Cæsarean section had been at once performed by the house-surgeon, and a *dead* child extracted; that the foetal heart had been inaudible since the preceding Friday, and a living child had not been expected. The chief of staff suggested that as it was a coroner's case the parts should be as little disturbed as possible, and the abdomen was therefore at once closed without exploring the uterine cavity. In this manner the presence of a second child escaped detection. No doubt both children had been dead for several days, probably in consequence of the toxæmia of the mother, who died of uræmia from Bright's disease.

This correction of a statement which, in a similar garbled and incorrect manner, has appeared in one or more of our daily papers appears to me but an act of justice to the house-surgeon, who, I am informed, very skillfully performed the section, as well as to myself, who, as visiting surgeon on duty, might by persons knowing that fact have been supposed to have been guilty of the grave error of leaving a *living* twin child in the uterus after successfully removing the first.

Yours truly, PAUL F. MUNDÉ, M. D.,

Obstetric Surgeon to Maternity Hospital, Blackwell's Island, New York.
20 WEST FORTY-FIFTH STREET, November 13, 1879.

SHORT COMMUNICATIONS.

LITHOLAPAXY.

STONE IN THE BLADDER OF A PATIENT EIGHTY-EIGHT YEARS OLD; BIGELOW'S OPERATION; SUCCESS PERFECT.

BY W. F. TEEVAN, B. A., F. R. C. S.,

Surgeon to the West London and St. Peter's Hospitals.

On September 9th, in consultation with Dr. Kempe, of Ladbroke-grove-road, I saw Colonel —, eighty-eight years of age, who served throughout the Peninsular war. From notes taken by Dr. Kempe, it appeared that the patient passed two calculi many years ago.

For a long time he had occasionally suffered from pain in the loins, and had seen red gravel in his urine. One year ago the gravel ceased to appear, and he began to be troubled with a frequent desire to micturate, and to have a dull, aching pain in the perinæum. Now and then he saw a little blood in his urine. Latterly his pains had increased, and the water had become very thick and offensive. For the past three months he had been confined to bed. During the last few weeks he had become very excitable and unmanageable. He could get but little sleep at night, as he was so frequently troubled to urinate.

When I saw him he was greatly agitated and in much pain. I introduced a very slender, short-beaked Mercier's sound, which struck a hard stone immediately it entered the bladder. The third lobe of the prostate was enlarged, but the lateral lobes were of normal size. The patient was of middle height, and decidedly muscular; and although his face was haggard from pain and want of rest, its appearance was nevertheless healthy, and his eye was clear, bright, and piercing. He was born at Beverley, in Yorkshire, the county which is reputed to produce the strongest men and the best horses in England. His mother was a native of Cambridgeshire, but he did not remember where his father was born.

When the colonel was informed of the nature of his malady he urgently demanded an operation. I submitted a specimen of his urine to Dr. George Harley for examination, who reported that there was no evidence of any renal disease. Dr. Thorowgood examined the patient's heart and lungs, and informed me that there was nothing to contraindicate an operation. Dr. Kempe and I then told the patient's relatives that an operation for the removal of the stone could be undertaken with a fair chance of success. They readily consented to what the patient so urgently desired. On September 13th, at two p. m., the patient was put under the influence of ether by Mr. T. G. Alderton. There were present Dr. Thorowgood, Mr. Butlin, Dr. Kempe, and Dr. Hubbard. In the space of twenty minutes I completely pulverized and evacuated a lithic-acid stone, measuring one inch and a quarter by one inch. The calculus was excessively hard, and the noise produced by breaking up even the smallest fragment was audible to all present. I used three lithotrites, introducing them eight times in all. The evacuating tube, No. 26, which slipped in with ease, was passed three times. The patient was sounded by Mr. Butlin, Dr. Kempe, and myself, but not a particle of stone could be discovered. There was a little blood lost at the operation, and for four days afterwards the urine was sanguineous. Much smarting was experienced for forty-eight hours whenever the water passed, but it was entirely confined to the penile urethra, and on no occasion was there the slightest pain or tenderness in the hypogastric region. The variations in the pulse and temperature were taken twice daily by Dr. Kempe. The highest temperature recorded was at six a. m. on September 15th, when it reached 101° F., the pulse being 98. The patient's progress after the operation was one of gradual improvement. The urine began to clear on the fifth day; the nights were good and the appetite was keen; and on September 24th he left his bed, to which he had been confined for three months. Five days later he went for a drive.

I last saw the colonel on October 4th. He was then absolutely free from all pain, and was very cheerful and happy. He could hold his urine for four hours, and got a good night's rest. The urine was clear, and there was no phosphatic deposit.

LIVERPOOL ROYAL INFIRMARY: CASE OF STONE IN THE BLADDER; LITHOTRITY AT ONE SITTING; REMARKS.

[Under the care of Mr. Reginald Harrison.]

The following case is noteworthy, chiefly because of the marked tendency to stone formation, the patient having previously been operated on twice by lithotomy and once by lithotripsy. It further illustrates the practice recently advocated by Dr. Bigelow, of Boston, under the name of "litholapaxy." We are indebted to Mr. Renner for the notes of this case.

J. A., a ship-keeper, aged sixty-three, was admitted on April 22, 1879. Eight years before he suffered from symptoms of stone, for which he was cut, and a calculus was removed. Within a year he was again cut at another hospital, and two calculi were successfully removed. During the year previous to admission a stone was removed by lithotripsy, and at the commencement of the present year the old symptoms again returned, when for the first time he came under Mr. Harrison's notice.

On admission he was suffering from frequent micturition, pain at the end of the penis, and occasional hæmaturia. The urine was purulent, and deposited phosphates in abundance. On examining him under ether with a lithotrite, a round stone of about an inch in diameter was felt.

On April 25th, the patient being placed under ether, Mr. Harrison broke up the stone, which was phosphatic, and evacuated the débris after the manner practiced by Professor Bigelow. The symptoms were at once relieved, and the cystitis from which the patient had so long suffered gradually abated under treatment.

Though the calculus was most completely broken up, there were no signs of hæmorrhage, either during the time of operation or afterwards. He left the infirmary on May 15, 1879, passing urine normally, and free from all signs of calculus. Whether, after such a history as that mentioned, he will continue free from further calculous formations remains to be seen.

After so extended an experience of stone and its treatment as this patient had undergone, it is not only interesting but proper to record his observation "that the new plan was the easiest way he had had of getting rid of a stone."

In commenting upon this case, Mr. Harrison said that it was another illustration in his own experience of the great value of litholapaxy in suitable cases. The object of this operation was to do away entirely with those ill effects which are produced by the retention and passing with the urine of broken pieces of calculi, which by their angles inflict injury on the mucous membrane of the urinary passages with which they come in contact.

A gradually-increasing experience in rapid lithotripsy, with evacuation of the fragments, only corroborated the views advanced by Professor Bigelow, and which he (Mr. Harrison) had seen practiced with so much success by the originator during his stay in Boston last year.

[The above cases are reprinted from the *Lancet*, October 25, 1879.

DIRECTORY FOR NURSES.

MEDICAL LIBRARY BUILDING, }
19 BOYLSTON PLACE, BOSTON. }

On and after November 24th any one requiring a nurse, whether male or female, for cases of illness can obtain one, with full information as to character, qualifications, charges, etc., at the above address. The directory will be kept informed as to any change of address and engagements, present and future, of nurses registered there, and applications from the country by letter or telegram will receive prompt attention.

The directory will be open day and night. A charge of \$1.00 from eight A. M. to eight P. M., \$2.00 from eight P. M. to eight A. M., will be made to any person securing a nurse.

Mrs. M. R. Towne, Miss Mary Anne Wales, Miss Anna P. Dixwell, Dr. F. C. Shattuck, Dr. C. P. Putnam, Committee.

ANOTHER SPECULUM ANI.

THIS speculum, made of brass and plated with nickel, may be described as a hollow cone four and a half inches long, its apex consisting of a hemisphere with a radius of one quarter of an inch, and its base showing an aperture one inch in diameter. Running lengthwise upon one side of the instrument is a slot three and a half inches long, one half an inch in width at the point where it breaks the circumference of the base, and one quarter of an inch wide where it terminates, one inch from the apex. The edges and closed extremity of this slot are finished in such form that no pain is likely to be produced by any movement of the speculum within the anus.



Inside the cone, and fixed opposite the slot at an angle of between four and five degrees with the axis of the instrument, is a narrow glass mirror, in which may be seen, through the slot, the image of anything — a fissure, for instance — which it is desirable to expose for

inspection. The mirror is firmly secured by a spring, and is so arranged that it can be easily removed and replaced. Experience has proved that the new speculum may be introduced, rotated, and withdrawn without inconvenience or suffering. Its conical shape makes it the substitute for a series of specula of different sizes. The use of the mirror is advantageous, directly by improving the illumination, and indirectly by allowing the observer so to place himself that his own person shall not intercept any ray of light that would naturally enter the instrument. During the examination the position of the surgeon may be easy and unrestrained, and the reflected object is presented to his eye with little obliquity.

Before using the instrument it is well to push through the anus, and leave to be expelled with the next stool, a bit of absorbent cotton.

A. HOSMER.

WATERTOWN, MASS., October, 1879.

THE PEA RIDGE PRACTITIONER AGAIN.

MR. EDITOR, — I beg you will allow me to present my compliments to the author of the capital satire entitled *The Experiences of a Successful Practitioner*, which appeared in your issue of October 9, 1879.¹ It might have been entitled *The Art of Crushing a Young Doctor in Accordance with the Code of Ethics*. It reminds me of a remark once made to me by a captain in the Cunard service. He said he could easily "run his ship ashore by act of Parliament." It is the old story over again. Even Holy Writ requires to be interpreted ingeniously.

EDITOR EMERITUS.

PAU, FRANCE, October 25, 1879.

DISSOLUTION OF GALL-STONES.

MR. EDITOR, — A recent number of the *JOURNAL*² contains a communication entitled *A Medical Reclamation from the Domain of Surgery*. In this article the writer very confidently proclaims the virtues of certain drugs as unfailing solvents of gall-stones, whether contained in the gall-bladder or in the biliary ducts. So certain and rapid, according to his testimony, is their action that cholecystotomy is henceforth absolutely without excuse.

The details of one of his most successful cases are given. The patient, a female, had an abdominal tumor, which, we are told, was an enormously distended gall-bladder, filled with gall-stones. On the strength of this diagnosis she "was ordered four six-ounce bottles of the succinate of iron, a teaspoonful of which she was directed to take half an hour after every meal." Such having been the medication prescribed, the report goes on to say that "on arriving at New York she got Squibb's chloroform, and took a teaspoonful of it in syrup and water every six hours for six days, at the end of which time the tumor over her liver had entirely disappeared, and could no longer be felt."

This case appears to be the same as the one alluded to by Dr. Austin Flint in the following passage:³ "Dr. T. H. Buckler has proposed the use of chloroform in view of the solvency of cholesterine in this liquid. He has reported a case in which an indurated tumor, felt through the walls of the abdomen, directly over the inferior margin of the liver, disappeared in five days under the use of chloroform given in teaspoonful doses after each meal. It was concluded that the tumor was the gall-bladder distended with calculi, *but there is room for doubt as to the correctness of this diagnosis*."⁴ It seems hardly probable that any remedies can be introduced into the composition of the bile largely enough to dissolve the cholesterin of which mainly biliary calculi are composed."

Murchison, whose authority on this subject is second to none, states that "although both chloroform and ether will dissolve cholesterin, which is the main constituent of gall-stones,

¹ For the complete article referred to, see *New York Medical Record*, October, 1879.

² The *JOURNAL*, October 23, 1879, page 583.

³ The *Principles and Practice of Medicine*, by Austin Flint, Philadelphia, 1873, page 459.

⁴ The italics are added.

out of the body, neither can reach the gall-bladder or bile ducts in a sufficiently concentrated form to accomplish this object during life, and the good effects which were thought to follow their use must be ascribed to their antispasmodic properties, and to the relief which they afford to flatulence."¹

The writer of this article, in which the use of solvents is so enthusiastically advocated, commenting on his experience, remarks incidentally that "the science of general medicine, properly administered, and taking into account the frailties of human nature, is as certain as divinity, more so than law." Now, considering the uncertainties which seem to beset the theory and practice of medicine in general, and which undoubtedly attend most conspicuously the solvent treatment of gall-stones in particular, will not this statement seem a gratuitous libel upon both *divinity* and *law*? Such disparaging comparisons are not unlikely to make the ministers and the lawyers rise indignantly in a body to vindicate the threatened prestige of their respective branches of knowledge. ***

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 8, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from					
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Diarrhoeal Diseases.	
New York.....	1,085,000	492	185	16.06	7.93	17.07	1.42	1.42	
Philadelphia.....	901,380	237	99	11.81	7.60	6.33	.84	—	
Brooklyn.....	564,400	221	100	25.79	21.27	21.27	—	2.26	
Chicago.....	—	147	73	42.86	24.49	10.88	8.16	4.08	
St. Louis.....	—	113	37	16.81	3.54	6.19	1.77	5.31	
Baltimore.....	393,796	151	54	29.14	16.56	3.98	5.96	—	
Boston.....	360,000	140	55	28.57	15.00	13.67	2.14	5.00	
Cincinnati.....	280,000	84	31	13.10	7.14	7.14	4.76	1.19	
New Orleans.....	210,000	118	—	15.93	4.42	5.31	—	3.54	
District of Columbia.....	170,000	82	33	15.85	6.10	10.98	1.22	4.88	
Cleveland.....	160,000	47	30	67.45	27.66	4.26	19.15	2.13	
Pittsburgh.....	—	51	—	45.10	29.41	3.92	3.92	1.96	
Milwaukee.....	127,000	32	12	18.75	9.38	9.38	—	3.13	
Providence.....	101,500	43	15	34.90	9.30	2.33	20.93	2.33	
New Haven.....	60,000	13	6	16.67	11.11	5.56	—	5.56	
Charleston.....	57,000	27	6	22.22	—	7.41	—	3.71	
Nashville.....	27,000	11	4	9.19	—	—	—	9.09	
Lowell.....	53,300	22	1	4.55	4.55	18.65	—	—	
Worcester.....	62,500	9	3	11.11	—	11.11	—	11.11	
Cambridge.....	50,000	11	6	54.55	45.45	—	—	9.09	
Fall River.....	48,500	23	17	43.48	—	13.04	34.78	8.69	
Lawrence.....	38,200	17	11	29.41	17.65	17.65	—	11.77	
Lynn.....	34,000	14	1	21.43	14.29	21.43	—	—	
Springfield.....	31,500	2	—	—	—	—	—	—	
New Bedford.....	27,000	13	2	23.08	15.38	—	7.69	—	
Salem.....	26,400	10	4	30.00	20.00	—	—	—	
Somerville.....	23,350	3	3	66.67	—	—	66.67	—	
Chelsea.....	20,800	7	3	28.57	28.57	—	—	—	
Taunton.....	20,200	4	—	—	—	25.00	—	—	
Holyoke.....	18,200	10	2	20.00	—	—	20.00	—	
Gloucester.....	17,100	5	2	20.00	20.00	—	—	—	
Newton.....	17,100	—	—	—	—	—	—	—	
Haverhill.....	15,300	5	—	—	—	—	—	—	
Newburyport.....	13,500	2	1	—	—	—	—	—	
Pittsfield.....	12,650	—	—	—	—	—	—	—	
Fitchburg.....	12,500	5	1	—	—	20.00	—	—	
Milford.....	9,800	3	—	—	—	—	—	—	

Two thousand one hundred and seventy-four deaths were reported: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 492, consumption 334, diphtheria and croup 261, lung diseases 241, scarlet fever 73, diarrhoeal diseases 53, typhoid fever 36, malarial fevers 32, whooping-cough 15, measles nine, cerebro-spinal meningitis seven, erysipelas six, small-pox none. From

¹ Diseases of the Liver, by Charles Murchison, M. D., New York, 1877, page 362.

typhoid fever, Boston seven, Philadelphia six, Baltimore five, Chicago and Pittsburgh four, St. Louis and District of Columbia two, New York, Brooklyn, Cleveland, Milwaukee, Charleston, and Lynn one. From *malarial fevers*, New York and New Orleans eight, St. Louis four, Brooklyn, Baltimore, and Charleston three, Chicago, District of Columbia, and Cleveland one. From *whooping-cough*, New York seven, Philadelphia, Brooklyn, Baltimore, Boston, New Orleans, Pittsburgh, Providence, and Salem one. From *measles*, New York seven, Chicago two. From *cerebro-spinal meningitis*, Chicago two, New York, Boston, Cleveland, Milwaukee, and Charleston one. From *erysipelas*, New York two, Philadelphia, St. Louis, Baltimore, and Cleveland one. Diphtheria is still increasing; measles and scarlet fever were more fatal.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
Nov. 2	30.201	35	46	25	66	35	63	55	W	0	S	7	0	4	F	F	O	—	—
" 3	29.820	33	43	28	100	100	100	100	E	SE	NW	12	6	19	S	S	S	—	.42
" 4	30.191	27	33	21	100	59	63	74	W	NW	NW	8	16	15	C	C	C	—	—
" 5	30.471	27	35	17	70	43	76	63	NW	W	W	10	4	2	C	C	C	—	—
" 6	30.334	30	38	21	100	89	89	93	NW	W	NW	12	3	4	S	S	O	—	.13
" 7	30.375	35	40	30	100	73	90	88	NW	N	W	12	2	4	S	O	C	—	.08
" 8	30.340	49	59	31	100	47	79	75	S	SW	SW	4	16	8	F	F	F	—	—
Week.	30.247	34	41	25				77	NW			1463 miles						40.2	.68

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

For the week ending October 18th, in 149 German cities and towns, with an estimated population of 7,518,362, the death-rate was 23.8, same as in the previous week. Three thousand four hundred and forty-two deaths were reported: diarrhoeal diseases 412, consumption 404, acute diseases of the respiratory organs 246, diphtheria and croup 130, scarlet fever 71, typhoid fever 63, whooping-cough 60, measles 26, puerperal fever 25, small-pox one. The death-rates ranged from 9.4 to 38.

For the week ending October 25th, in the 20 English cities, with an estimated population of 7,383,999, the death-rate was 22.1 against 20.9 of the previous week. Three thousand one hundred and twenty-eight deaths were reported: scarlet fever 166, diarrhoea 93, measles 74, whooping-cough 61, fever 59, diphtheria 15, small-pox six (London five, Birmingham one). The death-rates ranged from 14.6 to 26.4. Diarrhoea, typhoid fever, and small-pox continue to prevail in the Belgian cities; diarrhoea in the larger Swiss towns.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 8, 1879, TO NOVEMBER 14, 1879.

KING, WILLIAM S., lieutenant-colonel and surgeon. The extension of his sick leave of absence granted him March 6, 1879, from A. G. O., is further extended six months on account of sickness. S. O. 254, A. G. O., November 8, 1879.

REMAINE, W. S., captain and assistant surgeon. The leave of absence on surgeon's certificate of disability granted him in S. O. 214, October 27, 1879, from head-quarters Department of the Missouri, is extended two months on surgeon's certificate of disability. S. O. 255, A. G. O. November 11, 1879.

ELBREY, F. W., captain and assistant surgeon. Relieved from duty in Department of the South and to report in person to the commanding general Department of the Missouri for assignment to duty. S. O. 254, C. S., A. G. O.

BYRNE, C. B., captain and assistant surgeon. When relieved by Assistant Surgeon Comegys to comply with S. O. 235 C. S., from A. G. O. S. O. 231, C. S., Department of Texas.

HAVARD, V., first lieutenant and assistant surgeon. Granted leave of absence for one month from 25th instant, with permission to apply for one month's extension, provided he furnishes satisfactory medical attendance to the command at Fort Johnston, N. C., at his own expense. S. O. 168, Department of the South, November 10, 1879.

COMEGYS, E. T., first lieutenant and assistant surgeon. Assigned, temporarily, to duty as post surgeon at Fort Duncan, Texas. S. O. 231, Department of Texas, November 3, 1879.

PORTER, J. Y., first lieutenant and assistant surgeon. Granted leave of absence for five months. S. O. 254, C. S., A. G. O.

RICHARD, CHARLES, first lieutenant and assistant surgeon. Relieved from duty at Fort Buford, D. T., and to report to commanding officer Fort Snelling, Minn., for duty at that post. S. O. 124, Department of Dakota, November 2, 1879.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING NOVEMBER 14, 1879.

MEDICAL-DIRECTOR A. L. GIBBS and Medical Inspector B. T. Gibbs ordered as delegates to represent the Medical Corps of the Navy at a meeting of the National Public Health Association at Nashville, Tenn.

WE have received specimen copies of Dr. C. Henri Leonard's Physician's Day-Book and Reference and Dose Book. Both are intended for the pocket, both are ingenious and useful. The former is a case-book and cash record. The latter includes not only doses, but scores of little matters upon which physicians constantly require information.

BOOKS AND PAMPHLETS RECEIVED. — American Health Primers. The Throat and the Voice. By J. Solis Cohen, M. D. Philadelphia: Lindsay and Blakiston. 1879. (From A. Williams & Co.)

The Physician's Visiting List for 1880. Twenty-ninth year of its publication. Philadelphia: Lindsay and Blakiston. (A. Williams & Co.)

The Thirty-Sixth Annual Report of the New York Association for Improving the Condition of the Poor, for the Year 1879.

A Glance at Insanity and the Management of the Insane in the American States. By Pliny Earle, M. D. Boston. 1879.

Walsh's Physician's Handy Ledger. A Companion to Walsh's Physician's Combined Call-Book and Tablet. Published by Ralph Walsh, M. D., 326 C Street, Northwest, Washington, D. C.

Walsh's Physician's Combined Call-Book and Tablet.

On Cysticercus Cellulosæ. By C. S. Turnbull, M. D., of Philadelphia. (Reprint.)

Transactions of the Massachusetts Medico-Legal Society. Vol. I. No. 2. 1879. Cambridge: Riverside Press.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M. D. Lond. Second American Edition. Revised by the Author. With Notes and Additions by James H. Hutchinson, M. D. Philadelphia: Henry C. Lea. 1879. (A. Williams & Co.)

Holden's Manual of the Dissection of the Human Body. Edited by Luther Holden, President of the Royal College of Surgeons of England, and John Langton, F. R. C. S. Illustrated. Fourth Edition. Philadelphia: Lindsay and Blakiston. 1879. A. Williams & Co.